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ABSTRACT

This training course module on curriculum development is divided into five units: (1) basic curriculum questions; (2) formulation of educational objectives; (3) translating national goals into educational programs; (4) determination of learning needs; and (5) the organization of areas of knowledge in the curriculum. For each unit the learning objectives are set forth and a complete outline of the unit is given prior to the presentation of the academic information to be mastered in the unit. Required and recommended readings are listed, and self-tests follow each conceptual segment contained in the unit. A comprehensive bibliography is included. (JD)

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African Curriculum Organisation
(ACO)

Basic Training Course in
Systematic Curriculum Development

Course Two:

Introduction to Methods and Processes of Curriculum Development and Evaluation

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ACO BASIC TRAINING COURSE IN SYSTEMATIC
CURRICULUM DEVELOPMENT

General Editors: Sylvester N. Dioh, Kofi B. Quansah, Peter Sachsenmeier,

COURSE TWO:
INTRODUCTION TO METHODS AND PROCESSES OF CURRICULUM DEVELOPMENT AND EVALUATION

NAIROBI, 1983

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OBJECTIVES

As the title implies, this course is meant to sensitize you to serious, important, and practical issues in curriculum development. To achieve this, the course starts with "Basic Questions" in Unit I and proceeds to give a brief overview in the following units of the "Curriculum Foundation" part of the whole course.

When and wherever possible you are asked to study within the realities of your own country. This way, it is hoped, you will look deeper into what pertains in your home country even to the point of collecting materials that will be used during the residential course. Indeed this approach is aimed at ensuring relevance to a course which should be as practical and applicable to African conditions as possible.

CONTENT

Unit I: Basic Curriculum Questions

Unit 2: Formulation of Educational Objectives

Unit 3: Translating National Goals into Educational Programmes

Unit 4: Determination of Learning Needs

Unit 5: The Organisation of Areas of Knowledge in the Curriculum.

Unit One:

Basic Curriculum Questions

UNIT ONE

BASIC CURRICULUM QUESTIONS

OBJECTIVES

1. At the end of this unit you will have been introduced to several key concepts and terms in curriculum studies.

2. In this unit you will be faced with several basic questions which, it is hoped, will lead you to reflect on curriculum development.

3. You will gather and analyse information about curriculum development in your own country, thereby investigating your home situation before coming to the residential course.

4. At the end of the unit you will have been invited and hopefully motivated to pursue studies in the field of curriculum development.

CONTENTS

1. Introduction: The Meaning of Curriculum
2. Basic Curriculum Questions
2.1 Whom shall we educate?
2.2 What shall we teach?
2.3 How shall we teach?
2.4 How shall we develop and evaluate an educational systems?

BACKGROUND TO THE TEXT

As you will appreciate, this text has been assembled by educators from all over Africa and elsewhere, and written during a writing workshop. There are certain limits to the depth and scope of the texts.

However, an attempt has been made by the Course Team to both retain some of the original flavour of the documents, as well as to add and redirect readers to other sources and studies, including those delivered to the curriculum centres as part of this programme.

Since a good deal of information and guidance is already available in the field of methods and processes of curriculum development, you as participant in this programme are strongly advised to turn to overviews and summary books. In particular, the following is required reading, and knowledge and thorough grasp will be assumed both for the assignment in the correspondence phase, and for the other parts of the programme.

A Lewy: Planning the School Curriculum. IIEP, Paris, 1978.

HWR Hawes and others: Curriculum and Reality in African Primary Schools. Longman, London, 1979.

Throughout this document, due to the fact that there are so many excellent presentations around, you will be introduced to various topics briefly, and then often referred to relevant readings.

This background applies to all the units in this course.

1. INTRODUCTION

The Meaning of Curriculum:

Curriculum may be defined in a narrow sense as "the body of material which is considered to be worth transmitting to the student." Curriculum and the process of Curriculum Development can also be given a wider meaning:

> " the administration, content, procedures, processes and philosophy of the transmission of attitudes, skills and knowledge as well as the research being carried out on all aspects of it."

In Planning the School Curriculum, A. Lewy (1978, p.16), outlines a single scheme for "major curriculum development tasks":

Major Curriculum Development Tasks

Stage	Activity
Planning Outline:	selection of objectives
	selection of content
	selection of teaching-learning strategies
Preparing Instructional Materials:	creation of instructional materials
	organisation of materials into courses of study
	try-out of new materials
	modification on the basis of try-out results
Implementation:	dissemination
	setting of a logistic system
	teacher training
	adjustment of national examination systems
	co-operation with administrative bodies
	quality control
	recycling

This scheme absorbs some of the thinking of earlier writers (e.g. Tyler, 1949; Taba, 1975) who understood curriculum development as a comprehensive task.

An African practitioner, G. P. Oluoch (1982), for a long time director of the Kenya Institute of Education, summarised the component processes of curriculum development as follows (pp. 14-16):

> Having defined what is meant by education and what is meant by school curriculum, curriculum workers should then identify the major processes that are essential in the task of curriculum improvement. This is not an easy job. Curriculum development, or curriculum improvement is such a complex task that it cannot be reduced to any series of neat steps. However, it is possible to spell out several component processes that must go into any curriculum development project. These processes are summarised in the following paragraphs and expanded in subsequent chapters.
>
> 1. Information Gathering
>
> The first important activity in curriculum development is information gathering. It is the type of information gathered that reveals both the need and feasibility of the curriculum development envisaged. The major points of concern here are; what information to be gathered; from whom it should be gathered; who should collect it, who should co-ordinate the collection; and what it should be used for.
>
> 2. Project Formulation
>
> The next essential component in curriculum development is project formulation. Here the objectives and feasibility of the project is determined.
>
> If the project is desirable and feasible then the curriculum development project is written up.

3. Curriculum Planning

The next important component is curriculum planning. This component involves considering each dimension of the school curriculum systematically. The following processes are then carried out in each dimension:

a. understanding and stating the objectives of the curriculum;

b. determining, organising and stating the necessary learning objectives and;

c. determining and stating the methods or techniques that would be used in assessing the progress and achievement of the learners.

4. Selection and Development of Materials and Equipment

The next component of curriculum development is concerned with the selection, and development of curriculum materials and equipment. Here such questions as the following would be dealt with: What existing materials and equipment would be appropriate for the new curriculum?; what new materials and equipment would be used?; who should prepare them and how?; and how much would they cost.

5. Try Out

A further important process in curriculum development is the try-out, or trialing of the new curriculum and curriculum materials and equipment in some institutions. Points to be considered here would include, the sampling method used in selecting the institutions; how feedback would be obtained; and how revision of curriculum, materials and equipment would be carried out.

6. Implementation

It is obvious that curriculum development would not be complete without the implementation process. This is the stage at which the planned curriculum is introduced into the schools and colleges. Sub-processes to be considered here include scheduling of implementation; the in-servicing and orientation of teachers and other educational personnel; provision of other support services; provision of necessary facilities; introduction of the necessary organizational changes within the school system; introduction of the process of informing the general public about the new curriculum and its implementation.

7. Project Evaluation

The last major process to be emphasized here is curriculum evaluation. It is vital that curriculum development projects be evaluated as they are planned, as they are executed, and when they are completed. The sub-processes involved here include specification of what exactly is to be evaluated and why; finding out how the objectives and processes to be evaluated can be observed and measured; selecting or developing the necessary observation and measurement techniques or instruments; collecting, analysing and using data to make decisions.

G. P. Oluoch has already indicated that curriculum development is complex. H.W.R. Hawes (1978, pp. 3ff.) tells us frankly that curriculum development is rather messy, and that to find an operational model of curriculum development may well be impossible:

> There is a state of mind with which we are all familiar where consciously or unconsciusly we avoid examining the full implications of a concept because we are frightened of what we shall find. This has happened and is happening with our ideas of curriculum and curriculum development.
>
> It would be comfortable if we could satisfactorily describe the school curriculum in a country at any one time, if we could lay down an easily recognisable and easily operable model of curriculum development. Yet though we attempt (and have to attempt) both these, it would be dishonest to believe that we can ever accomplish the task with any degree of precision, for the following good reasons:
>
> (i) A School curriculum is very difficult to define. In our first instinctive bolt towards the security of categories we may tend to equate a country's curriculum

with the official national syllabus, but this security evaporates even as we begin to consider the meaning of the word curriculum. We could fill pages with definitions, some of which conflict quite sharply: for, as as Stenhouse observes:

> 'We appear to be confronted by two different views of curriculum. On the one hand the curriculum is seen as an intention, plan or prescription, an idea about what one would like to happen in schools. On the other it is seen as the existing state of affairs in schools, what does, in fact happen.'

But whatever definition we take it is certain that our main concern should be with what is planned, provided, selected from the culture for *the individual learners* in schools and here, alas, we begin to realise how slippery and varied of different people in different contexts. They involve activities, generated by the school or by a higher authority for the school, which take place in class and out of it, as well as activities like health habits, home farming projects and community service planned in the school and taking place out of school hours in the communities. They involve the generation of attitudes and skills as well as the inculcation of knowledge. They are spread by teachers, by materials, by older children and peers, through direct teaching, individual learning, informal contact and example. Thus as people and places are different and interests, values, enthusiasm and motivation are different, so the school curricula also differ.

(ii) *The process of curriculum development is a curiously complicated one*. Decisions take place at various stages and are made by various people, from politician to parent and teacher, in respect of *aims and objectives* at various levels; the production *curriculum plans* (syllabuses for schools and colleges, schemes of work, timetables); the selection and emphasis of *learning materials* (including not only written and audio-visual materials but also learning resources derived from the school environment); the selection of an appropriate *methodology* for learning and teaching and the *evaluation* of both the process and the product.

Complex though this process may be, its efficiency may be measured at one point and one point only - its ultimate effect on the learner and what he learns. Learners are individuals just as teachers, headmasters, inspectors, planners and ministers are individuals, so that the whole process is one of changing people rather than paper, dependent on the qualities of trust, understanding and flexibility which are so unevenly distributed among us. Consequently it can be accomplished with neither the tidiness nor the speed with which it is possible to write a plan or distribute money or erect buildings.

(iii) Both 'curriculum' and 'curriculum development' are therefore, dynamic rather than static concepts, necessarily untidy and unfinished.........
...since schools, contexts, acceptability and possibility for change vary in time and place. The politician almost by definition expects large demonstrable nationwide change. He may even be, by training, a military man, whose troops attack when they are told. Now faced with teachers, parents and children perversely disposed 'to reason why' he may attempt to cover up obvious discrepancies between the orderliness of a government's intention and the disorder of its implementation.

For the educationist, too, the acceptance of untidiness is hard to bear, for so many of the conventional instruments by which change has been effected - the plan, the syllabus, the examination, the textbook - are solidly rooted on a postulate of uniform development. Admittedly, the prospect of 'rolling reform', the idea of continual and gradual evolution in a country's curriculum is one which many of us contemplate with unease; yet I see no logical alternative to it and further suggest that the rolling must take place unevenly. We must learn to live with the untidiness, the humanness of change, control our exasperation and be thankful that we are dealing with individuals who can laugh and can change, rather than what one aid proposal (in a particularly sinister piece of educational gibberish) described as 'learning stations'.

(iv) The process of curriculum development cannot be separated from the machinery for its implementation. There can be no artificial distinction between professional and administrative matters, nor can we ignore the fact that to plan and implement change costs money.

Once we plan, provide or limit teacher training or retraining, appoint and train inspectors, allocate money for equipment, consider ages of entry, discuss promotion or examination policy, design a classroom or divide a school year, we are making a decision which affects our school curriclum. It may be convenient and it is certainly usual, to keep separate the 'administrative' and 'professional' duties of those who plan and execute educational policy but it is hardly profitable to the process of curriculum development; the very wide gaps which exist between policy and practice in many countries are to a considerable degree a result of misunderstanding compounded by not a little arrogance (a legacy among the most unlovely of those bequeathed by the British to their successors in office).

(v) The process of curriculum develpment must always be subsidiary to the purpose of which a curriculum is selected. What is being selected from the culture and transmitted to learners remains our most important concern. Yet it becomes easy, and often less disturbing, to concentrate on whether a curriculum is working rather than whether it is appropriate. The more we have invested in a new curriculum, the more painful it is for us to consider its value. Among the most disturbing experiences in my own recent visits to African countries was to find men and women implementing with uncritical passion and devotion, curricula whose value and importance to the the culture had never been seriously or deeply debated.

(vi) The importance of the school as an instrument of development must not be overestimated and the school curriculum should take into account the school's role. Education is only one of many related factors contributing to development. The school, as already indicated, is only one instrument in a process of lifelong education. We educationists are often incorrigibly big-headed when modesty would befit us better, for the school curriculum and its development must be seen as a part and partner with other agents in the developmental process. It must relate horizontally with all those other contemporary influences on a child's growth and, vertically, with that which has been and is to come. Looked at in the perspective it becomes obvious to us that there are certain aspects in the educational process in which the school as an agency can take a lead, certain others where it can merely act as a support.

(vii) We are all participants in choosing, developing and evaluating the school curriculum....
...for the process is far too important to be left to experts. Of recent years curriculum development has become a field for much theorising, often supported by weird cabalistic models and has acquired a specialised and technical vocabulary. In the exportation of this theory to Africa, a dangerous and imperfectly understood mystique has grown up, some of it centred around the two Taxonomies of Educational Objectives by Bloom, 'Krathwohl' and their associates in Chicago. These excellent works have been taken in senses for which they were never intended, as bibles in a creed of systematic centralised curriculum development. There is a widespread belief, and it is growing, that curriculum development and curriculum evaluation are to be accomplished by experts who have had a substantial period of initiation into a highly technical field. There is an earnest and somewhat bewildered questing for the 'right way' of stating plans, arranging materials and evaluating them and while this is being sought, common sense is obscured.

The 'selection from the culture' and the evaluation of our success in transmitting it to our youth has to concern every responsible educator within a community. Throughout the history of good teaching we have set goals and formed judgments which, however imprecise, were always worth making. We wanted our learners:

to learn 'more'
to understand 'better'
to acquire learning skills (like reading 'better')
to think 'more clearly and logically'
to be 'better citizens'
to be 'better people'

Mr. Hawes has also mentioned "culture", and the necessity of "selection from the culture". While this point will also be raised in Course III, it may just be worth-while to ponder on "culture", and more specifically, "traditional education; in relationship to modern education".

Please also refer back to Mr. Hawes opinions on this page when you take a look at the formulation of educational objectives in unit 2, and at the determination of learning needs in unit 4.

2. BASIC CURRICULUM QUESTIONS

Some of the main questions which arise in curriculum development are listed below and discussed further on. These are the questions to which a curriculum developer in the field must find answers, answers that would be realistic, functional and implementable in the context and with the constraints under which he or she is working.

For you, the student of curriculum development, these questions may only have theoretical meaning but consider them as a preparation for what is to come should you (as we expect) go on to work in the field of Curriculum in an African country.

Questions:
1. Whom shall we educate?
2. What shall we educate for?
3. What shall we teach?
4. How shall we teach?
5. How shall we develop a teaching system?
6. How shall we keep evaluating and improving what we do?

WHOM SHALL WE EDUCATE:

In the formal situation, society provides education to those attending schools and other institutions of learning. How is the population of these institutions constituted? In other words whom do we reach (and teach) in our institutions? It has been noted that practices differ in different African countries. The purpose of the assignment that follows is to enable you to become acquainted with different practices.

Self-test 1

Find suitable sources of information, such as the UNESCO Statistical Year-Book, which has been put at your disposal in your centre's library. Now, study and analyse the situation regarding attendances at school in your own country. Refer to international statistical documents as well as national and other documents. Give your own subjective overview of the situation as well as the quantitative aspects such as age, percentage attendance etc. Write out some. You may need the figures again later, e.g. for your essays.

UNESCO utilizes the following general classification of education level and types:

A. Pre-Primary
B. Primary
C. Secondary
D. Tertiary
E. Special Education
F. Adult Education

Self-test 2

Can you suggest or have you come across a different classification?

There are many children who deserve special treatment, i.e. special education:

- the blind
- the deaf and dumb
- the physically handicapped
- the mentally handicapped

There are many adults who need education, for one or more of the following reasons:

- they have never been to school;
- they have not completed particular courses they started, either because they had to leave or were unsuccessful;
- they need special training, often related to the job they do or wish to do;
- they want to improve in whatever way they can (i.e. the concept of life-long education).

Self-test 3

School Enrolment	Primary		Secondary		Tertiary	
	67/68	83	67/68	83	67/68	83
North America	98		92		44	
Europe & USSR	97		65		17	
Oceania	95		60		15	
Latin America	75		35		5	
Asia	55		30		4.7	
Arab-States	50		25		3.1	
Africa	40		15		1.3	

All figures are % of people enrolled out of the total population at that given age. Complete the table by looking for the figures. Note the the changes that have taken place.

A recent table (Unesco 1982) shows an increase of enrolment for Africa, but you must keep in mind both the population explosion which currently takes place here, and the fact that the percentage of enrolment vis-a-vis the relevant age group is still below that of other areas of the world. Check the Unesco Statistical yearbook for more details.

Average annual rate of increase in enrolments by level of education in the developing regions and in the developed countries: 1960-1980

Region	Level of education	Average annual rate of increase (%)				
		1960-1965	1965-1970	1970-1975	1975-1980	1960-1980
Developed countries	Primary	1.5	0.7	-1.0	-0.9	-0.1
	Secondary	6.0	2.2	2.4	0.6	2.8
	Higher	8.7	7.2	5.2	2.6	5.9
	Total	3.2	1.6	0.7	0.0	1.4
Developed countries	Primary	6.4	4.2	3.9	3.6	4.5
	Secondary	10.7	7.7	6.8	6.5	7.9
	Higher	11.8	8.9	10.9	6.8	9.6
	Total	7.2	4.9	4.7	4.4	5.3
Africa	Primary	6.6	4.8	6.7	6.7	6.2
	Secondary	12.6	10.6	10.2	9.4	10.7
	Higher	12.1	9.5	14.8	8.2	11.2
	Total	7.3	5.6	7.3	7.2	6.8
Latin America	Primary	5.6	5.4	3.7	2.8	4.4
	Secondary	10.3	8.8	10.4	7.7	9.3
	Higher	9.8	12.4	17.4	7.8	11.8
	Total	6.2	6.0	5.2	4.0	5.3
South Asia	Primary	6.7	3.6	3.4	3.2	4.2
	Secondary	10.6	7.0	5.3	5.8	7.1
	Higher	12.8	7.8	8.0	5.6	8.5
	Total	7.5	4.4	4.0	3.9	5.0

1. In the tables comparing the education situation in various regions of the world, the category 'developing countries' does not include either the people's Republic of Korea, owing to lack of data. Furthermore, 'South Asia' refers to all the Asian countries, with the exception of the two above-mentioned countries, Japan, Republic of Korea, Mongolia and Hong Kong.

Source: Unesco, 1982

Self-test 4

What facilities and provisions are there in your country for:

1. Special education
2. Adult education
3. Literacy programmes as a special aspect of adult education

Write 20 - 50 lines on each topic

Socio-Economic Factors are known to influence education. Consider the following cases:

CASE 1: Some children have to look after cattle, do house work help their parents in the field.

These activities in themselves may be educational (i.e. training within the traditional system) but they may hamper or even prevent some children from going to formal schools.

CASE 2: Some children have at home a place to study, reference books, magazines, radio and television and access to nature and to the countryside. Other children may have none of the above. How do these factors influence:

(a) performance at school?
(b) development of the child's personality?
(c) (eventually) the child's success or failure in life?

CASE 3: Primary leaving certificate and secondary entrance examinations. How does these exams affect the student population of secondary schools?

Self-test 5

How do these exams affect the student population in secondary schools in your country?

CASE 4: A recent piece of research carried out in France concerning the socio-economic background of students admitted to the Grandes Ecoles (engineering, architecture, medicine) showed how drastically socio-economic background affected chances of entry of students.

The population of several Grandes Ecoles in France, when analysed showed that they were made up of sons and daughters of the following groups of people in decreasing order of importance.

1. Professionals, managers, higher civil service personnel etc.
2. Middle-level managers, cadres, teachers and other.
3. Specialised workers and others.
4. Unskilled workers, immigrants etc.

Self-test 6

Which are the socio-economic factors which affect the opportunity of access to education in your own country, in Africa generally?

Factors	The way in which they operate
- e.g. Elitism	(fill in)
- e.g. Tribalism	
- e.g. school-fees	
- e.g. occupation of parents	
- (fill in)	
-	
-	

Some of the above factors may affect not so much the access to education but regularity of attendance to school e.g. at the primary and lower secondary level in Northern Nigeria some children are absent from school on market days (they have to help their parents), or elsewhere children may be absent during harvest time, etc.

Self-test 7

What are the Curriculum implications of irregularity of attendance? Give some examples from the rural areas and elsewhere of your own country.

The above consideration leads to one important curriculum implication and this is best expressed as a question:-

> Can a curriculum be developed centrally and be valid for an entire country, especially if the country is as vast as Nigeria, Algeria or Tanzania? How can curriculum centres cater for regional educational needs? By decentralisation?

Please consider now some of the problems connected with school entry and leaving age:

Case 1: In a Form 2 in a Western Nigerian rural secondary pupils were found to be from 13 to 20 years old with less than 10% of homogeneity of age affect education.

Case 2: What is the age of entry into primary and secondary schools in various African countries?

Country	Primary	Secondary
	From - To	From - To
e.g. Mauritius 5 - 11		12 - 14 Lower 15 - 16 Middle 17 - 18 Upper
Give other examples		

In a situation where there is near universal primary education but little secondary education how would you view the suggestion that primary (basic) education should run for 6 years, from 9 to 14? or would you prefer a longer/shorter period?

As a curriculum developer, you will constantly be faced by such choices. With your experience, you will also know that when making curricular decisions within a national system, you will have to take a close look at national educational goals (see unit 3 of this course for more details) and at the educational needs of communities within a country (see also unit 4).

The developer will prepare materials, guides etc. not only for actual learners (i.e. pupils and students) but for such people as teachers, local educational authorities, central educational authorities (Ministry of Education), school inspectors, school administrators and providers of educational technology. Hence at this stage in this introductory course in curriculum development we may ask:

Who are the clients of curriculum developers?

Self-test 8

Try to link the various components in the scheme that follow by means of one way arrows (from donor to receiver →) or by means of 2 way arrows (showing an interrelationship) ↔

PARENTS
SOCIETY

SCHOOL ADMINISTRATION
TEACHER
TEACHER TRAINING

EDUCATION
EDUCATIONAL TECHNOLOGY PRODUCTS
CURRICULUM DEVELOPER

EDUCATIONAL RESEARCH

PLAN/POLICY
NATIONAL POLICY DECISION/DECLARATION
OTHER CONSIDERATIONS?

Self-test 9

What are the Curriculum implications of irregularity of attendance? Give some examples from the rural areas and elsewhere of your own country.

WHAT SHALL WE EDUCATE FOR?

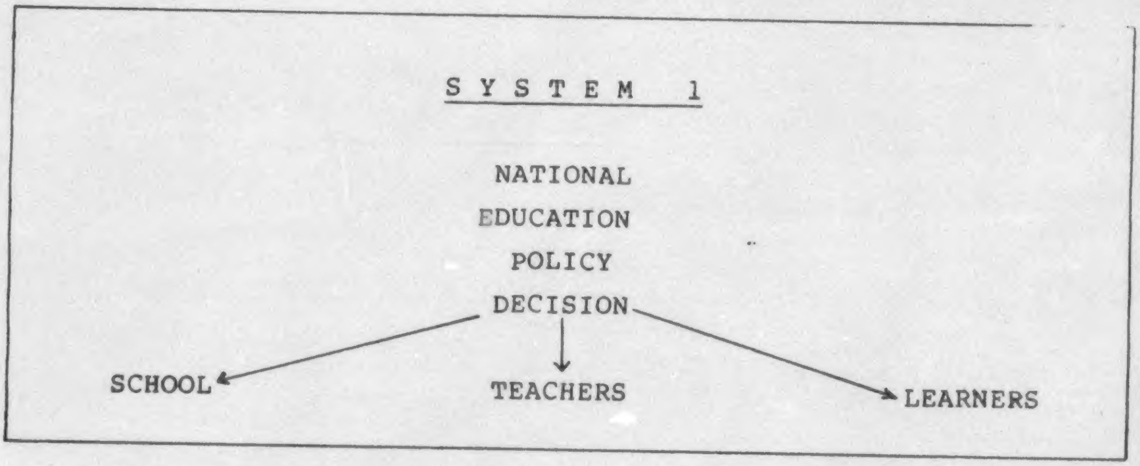
In other words "what are the objectives of education?" A period of reflection on this vital question is now called for. There are two possible starting points for considering the goals and objectives of education.

SYSTEM 1: Starting from the top

CASE 1: In Nigeria, the Nigerian Educational Research Council developed a "Federal Republic of Nigeria National Policy on Education." This document has 12 sections dealing with such matters as Primary, Secondary, Higher, Special, Adult Education. New curricular guide-lines sensitive to the new needs and goals were produced.

It was stated that:

"The determination of National Development goals is a necessary action on the development of any national education programme. It is political decision taken at the highest level of Government or the party in power."

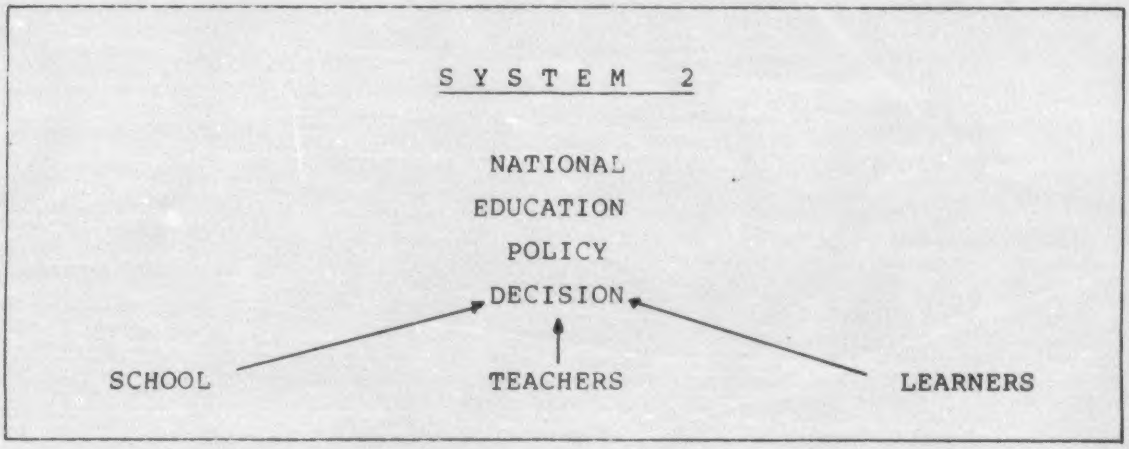


This example will be further dealth with in Unit 3 on National Educational Goals but it serves here to illustrate the mechanism by which educational goals and objectives are difined at the top and these gradually trickle down the system until they reach the learner, the prime target of education.

Find other examples in Africa and elsewhere of systems which are centrally directed as far as educational goals and objectives are concerned.

SYSTEM 2: Starting from the Base

This would mean recognising individual learners' and small communities' educational needs and building an educational system from these. Eventually, at the top of the system an educational policy declaration may be made but this will only reflect the reality at the base and furthermore will not in any way serve as a binding policy decision.



CASE 2: (to illustrate System 2):

Given below is a recommendation made to the American National Educational Association by a research project group dealing with educational change:

> "The objectives of the school, with a clear statement of priorities, should give direction to all curriculum planning. This applies to adding content, eliminating content or changing the emphasis on various topics and fields of study. Procedures and instruments for evaluating pupils progress must be specifically geared to the school's educational goals and to the curriculum sequence in use in the school."
>
> (Deciding What to Teach, Project on the Instructional Programme of the Public School, N E A Washington, 1963 p. 48).

The implication of the above recommendation which by and large, reflects the British and American educational system, is that schools are within living communities and therefore are best placed to reflect the educational needs of their particular communities. This is why today the Headmaster in a British school is still largely free to determine his own curriculum.

It would now be appropriate to compare these two systems namely that which starts and decides educational policy and that which starts at the base and recognises the educational needs of individuals and individual communities.

Self-test 10

In your opinion, are these two approaches diametrically opposed and mutually exclusive or can they be combined? In the light of this, how are educational policies, goals and objectives determined in your country? (Write about 30 - 50 lines concentrating on primary and secondary schools).

Ten to fifteen years ago, soon after most African countries achieved independence, education was considered as a major tool of reform and development. Consider the quotation that follow:

"In all parts of Africa today, education is in the frontline so to speak, national planning for the future of every independent country depends more than anything else on the rapid and effective development of its system of education."

(Source: African Education, by D G Burns, O U P, 1965)

Is this still true today? Why, in your opinion, is it that most African countries use System 1 - a centralised educational system where policy and goals are determined from the top! (Write 5 - 15 lines)

H. W. R. Hawes, has summarised the curriculum control patterns for a number of African countries.

Find out whether his presentation is correct, or if your country is not presented, draw up the position of your own country.

	ROLE OF THE MINISTRY	ROLE OF UNIVERSITIES AND/ OR INSTITUTES OF EDUCATION	ROLE OF TEACHER TRAINING ORGANISATIONS	OTHER IMPORTANT INFLUENCES
LESOTHO	(1) Primary Education Panel moderates policy, seven subject panels work to it (2) A primary curriculum unit has researched on situational analysis in primary schools (3) National Curriculum Development Centre being established	No university or institute role in Lesotho	(1) National Teachers' College controls teacher in-service education and influences diffusion of curriculum innovation (2) Pre-service education contains a one year internship programme (3) National Teachers' College is represented on the Primary Education Panel and widely on subject panels.	(1) A proposal to establish 26 Teachers' Centres is still in development (2) A system of model schools to help diffuse curriculum ideas has been attempted. (3) Certain parts of the leaving examination are common with Botswana and Swaziland.
SWAZILAND	(1) Ministry has both a Curriculum Coordinating Committee with a subsidiary Primary Curriculum Panel, and a Primary Curriculum Unit, with subject panels (2) The Ministry appointed Senior English Inspector is in charge of the primary 'English through Activity' programme.	(1) University Agricultural Department closely linked with the schools agriculture project (2) No other university or institute role in Swaziland	William Pitcher Teachers' College has powerful curriculum influence via teacher upgrading course which sends out correspondence materials and recommends books and aids to teacher interns.	(1) Proposal made for Teaching Innovation and Diffusion Centres. (2) As for Lesotho (3).
BOTSWANA	(1) Curriculum a ministerial responsibility but extensively modified locally (2) National Curriculum Centre being set up.	No university or institute role in Botswana	College based teams in in-service training project operate with local curriculum committees (college staff member/in-service training member/local education officer/headmasters/teachers).	(1) Two teacher centres: Lobatse and Serowe. (2) As for Lesotho (3).
ZAMBIA	(1) Curriculum Development Centre within the Ministry is responsible to the Inspectorate (2) Examinations controlled by the Inspectorate under separate department.	University Institute of Education now reconstituted as Department of Adult and In-service Training and no longer deeply involved in curriculum development except for dissemination of materials via in-service advanced courses for primary schools.	(1) Teachers' colleges assessed and advised by Inspectorate concerning dissemination of new curriculum. (2) Colleges also responsible for bulk of in-service training. (3) National In-service Training College has special responsibility for curriculum development training.	An Audio-Visual Aids Department has some influence on the production of new materials.
TANZANIA	(1) Special sections within Ministry for design and coordination of special programmes, inspection and evaluation for primary schools	Parastatal Institute of Education is autonomous from the University and responsible for developing new materials within Ministry guidelines.	Teachers' colleges involved in testing and modifying materials produced by the Institute of Education also in pre-service/in-service training of teachers in the new materials.	(1) Examinations are responsibility of National Examinations Council (ministerial sub-dept.) which co-operates with development of new curricular materials. (2) Itinerent teacher educators act as pressure group for curriculum reform, also implement new materials locally.
KENYA	National Commission for Educational Objectives within Ministry has provided broad guidelines to curriculum policy	(1) Kenya Institute of Education, independent of University, is the major influence (1976 Education Act defines its functions). (2) Despite teacher education responsibilities, a major part of KIE's task is in developing, and diffusing curriculum materials (via in-service training) (3) For (2) comprehensive system of subject panels established.	(1) Coordination of college curriculum organised by KIE. (2) College representation on all main curriculum panels. (3) A number of colleges closely linked with TAC's	(1) Teachers Advisory Centres set up, coordinated by Inspectorate and increasingly also by KIE (2) To a varying degree, local panels and teachers groups exist sometimes coordinated by the TAC's.
UGANDA	(1) Curriculum policy decisions are responsibility of Ministry subject panels. (2) Exams set by subject panels administered by separate Examinations Division. (3) Curriculum Development Centre responsible for formal and non-formal education.	National Institute of Education, at Makerere University, moderates college curriculum/exams in cooperation with the Curriculum Development Centre	Teachers' college role limited to diffusing materials in regular training programmes	(1) An Audio-Visual Aids Centre produces curriculum materials. Ministry, University and Teachers Colleges represented on its board (2) No local teachers centres.
NIGERIA	*Federal* (1) Overall responsibility for national goals and directions of curriculum policy. Policy documents issued and statements made (2) Exam policy to some degree Federal responsibility (3) Nigerian Educational Research Council coordinates research and curriculum development policies (4) National Guidelines issued as result of conferences and workshops *State* (1) State ministries establish syllabuses, moderate local exams and prescribe texts (2) Some states have Curriculum Development Centres.	(1) Ahmadu Bello Institute retains some responsibility for coordination of teacher education, curricula and examinations in northern states (2) It coordinated activities of the influential PEIP programme (3) Elsewhere university influence largely centred on research and training	(1) Both Federal and State ministries operate teachers' colleges which serve only to implement changes and distribute material (2) Mobile teacher trainers particularly in northern states act as implementers and may contribute to local variations (3) National Teachers' Institute (Kaduna) likely to exercise important future influence	(1) Science Teacher's Association an important pressure group (2) Teachers' Centres in some states.
GHANA	Ghana Education Service has one of its 5 Divisions concerned with curriculum research and development	Faculty of Education at Cape Coast University has close ties with the Curriculum Research and Development Division of the Ghana Education Service	National Training Council, in charge of teacher certification and in-service training, diffuses ideas and materials	(1) Bureau of Ghanaian Languages influential in producing mother-tongue materials (2) District Teachers' Resource Centres responsible for diffusion; design and production of materials being carried out more centrally (3) Certain parts of leaving exams are common with Sierra Leone and Gambia (4) West African Regional Mathematics Project (WARMP) and SEPA science have influenced primary curricula.
SIERRA LEONE	Ministry maintains overall responsibility for curriculum, but works largely through the Institute of Education.	(1) Institute of Education, attached to University with governing council including Ministry and University officials, has major responsibility through panels for curriculum development. (2) Sierra Leone Education Review (university sponsored) made important policy recommendations in 1974 (3) National Curriculum Revision Unit sited at the Institute. Curriculum conferences and national seminar on primary teacher education have been held.	(1) Resource centres located in teachers' colleges have been proposed (2) Bunumbu Community College undertakes experimental work in ruralised curricula.	(1) WARMP and the science centre established for the SEPA programme have influenced primary curricula (2) As for Ghana (3).

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WHAT SHALL WE TEACH?

There is a close link between officially defined educational policy and objectives and what is taught in institutions. The former determines the latter. A quick look at the colonial past will show for example how the subjects that were taught (e.g. English and French language and literature, British/European Histroy, Religious Knowledge etc.) were closely linked to defined policies.

For example, J K Nyerere states in his book Education for Self-Reliance:

> "The eudcation provided by the colonial government..... was not designed to prepare young people for the service of their country, instead it was motivated by a desire to inculcate the values of the colonial society and to train individuals for the service of the colonial state."
>
> Lord Macaulay wrting in 19th Century India says:
>
> "The aim of British education in India is to produce ...... a class of persons, Indian in blood and colour but English in taste, opinions, morals and intellect."

Now read through the following modern recommendations about what should be taught in schools.

From
"Deciding What to Teach"
National Educational
Association, Washington
1963 Recommendation 14

"Priorities for the school are the teaching of skills in reading, composition, listening, speaking (both native and foreign language and computation........ways of creative and disciplined thinking including methods of inquiry and application of knowledge .... competence in self-instructional understanding of the humanitgies and the arts, the social science natural sciences and mathematics appreciation of and discrimination." taste in literature, music, the visual arts..........instruction in health physical education" (and one should add moral and religious education).

Recommendation 22
(1980)

"The concept of general educaiton must be markedly broadened, so that it definitel includes general, socio-economic, technics and practical knowledge."

Rigid distinctions between different type of teaching - general, scientific technical and professional - must be dropped and education, as from primary and secondary levels, must become theoretical, technological, practical, and mannual at the same time."

What changes in attitudes seem to have taken place between 1920 and 1980?

HOW SHALL WE TEACH:

Studying has long been the primary means by which school learning takes place outside the classroom. By means of homework and other assignment the student organises his material and formulates ideas in his own words in a way that can be evaluated by his teacher.

Lecturing has long been the primary tool by which school learning takes place in the class. The teacher master of his field, organises his material in such a sequential, logical way that upon presentation of that material to his students these will acquire and assimilate at least part of it.

Based on educational research and our increased knowledge of child and of adult behaviour and psychology, present - day teaching learning methods have undergone drastic changes from the traditional picture evoked above.

Given below are some terms and concepts utilised in modern teaching - learning strategies.

- Societal, economic and political objectives of education
- Self-study
- Programmed learning
- Correspondence education (distance teaching)
- Instructional technology
- Classification and definition of educational objectives
- Teacher Education
- Teacher effectiveness
- Teacher - student interactions (teacher-role and student role)
- Discovery method (-active method - heuristic method) of teaching v/s the didactic, lecture method
- Interdisciplinary
- Group - (team) - teaching
- Foundation areas/function areas/subject areas/personnel areas administration/areas within an educational system.
- Educational psychology
  Levels of education (pre-primary, primary, secondary, special etc.)
- Life-long education
- Evaluation and monitoring of education

Self-test 11

Using an encyclopeadia of education, a good general encyclopeadia and other sources, obtain short accurate definitions of the above terms and concepts.

HOW SHALL WE DEVELOP AND EVALUATE AND EDUCATIONAL SYSTEMS?

This part of unit one can only introduce you to some aspects of curiculum implementation and evaluation. Detailed studies are reserved for the residential phase of the course and naturally we also encourage you to do some reading on your own now.

For any improvement or evaluation, however, it is always useful to perceive of a model, a simplified version of reality. Such curriculum models are now being presented.

Curriculum Models:

When we speak of a Curriculum (i.e. the body of material proposed to the learner) we generally refer to an operational curriculum i.e. one which is actually being implemented in classrooms across a school region or country. However, the curriculum developer who is an innovator and a researcher, is concerned with various other curriculum models.

Consider the models presented below and their relationship to the operational curriculum

Ideal Curriculum	A model of curriculum towards which the schools and a country aspire.
Formal Curriculum	A written set of intended learning for students. It will have been developed in relation to the national and other educational goals. Decisions are made by people other than the classroom teacher.
Instructional Curriculum	The curriculum which the teacher perceives that he is offering to his students
Experimential Curriculum	The curriculum which the student perceived is being offered to him i.e. what he actually experiences.

Operational Curriculum	The curriculum which is actually being or implemented in the classroom.

Factors influencing the development of a curriculum:

Choose a given subject within the secondary school curriculum. Briefly describe its objectives, content, approach to it, teaching techniques employed.

Self-test 12

Which of the following factors do you think have influenced decisions leading to the way in which that subject is being treated?

Tick ( ) the relevant factors from the list given below. Add any other factor which you feel relevant but which is absent from list.

1. National goals for education
2. Pronouncements by political leaders, especially the Minister of Education
3. Ministry of Education officials
4. University/Institute of Education
5. School Inspectors
6. Teachers' professional Association
7. Parent's association, parents
8. Teachers' unions
9. Religious Groups
10. Parliament (or equivalent body)
11. Political parties
12. Foreign text-books
13. Foreign examination bodies
14. Local examination bodies
15. Teacher training institution i.e. the training teachers have received

Implementation Strategies

Read carefully pages 177-234 of "Learning to Be", UNESCO/Harrap, 1972). Make a list of the recommendations from this text (apart from those reproduced below)

Self-test 13

In what way have these recommendations helped to form or alter your concept of what curriculum development is?

Extracts from "Learning to Be"

Page 181: "Every individual must be in a position to keep learning throughout his life. The idea of life long education is the keystone of the learning society."

Page 175: "New educational strategies must proceed from an over-all vision of educational systems and resources according to their capacity to meet the needs of societies in continual change. They must conceive of education as an enterprise transcending the framework of schools and universities, overflowing of schools and universities, overflowing its constituent institutions. Under no circumstances should strategies be bound by the confines of one single medium, one form of institution or one so called 'systematic' structure.

Once we acknowledge that it is time to enlarge present systems and even to adopt alternatives or replacements, we quickly become aware of the educational wealth to be found in the daily life of the community: in economic and administrative structure, in the mass media, at work and in the home. In order to realise this potential, strategies of a new type must be adopted and applied. The introduction of alternative of alternative educational strategies should be a feature of the present decade.

Today, it is no longer disirable to undertake educational reforms in piecemeal fashion, without a concept of the totality of the goals and modes of the educational process. To find out how to re-shape its component parts, one must have a vision of the whole.

Today, whether reforms are partial or more general, we cannot dismiss the need to conceive of both one and the other in relation to the over-all situation, and to envisage their consequence.

The reasons for this are that the effects of education are ranging further and that we now have the necessary tools to make short and medium-term forcasting a very different thing from intuitive speculation.

We therefore no longer have the right either to improvise or to limit ourselves to narrow pragmatism.

This does not mean we should dare nothing, fail to grasp new possibilities or commit ourselves tomorrow. It means on the contrary that we must think clearly in exploring new paths for the future. When developing and reforming educational institutions and methods, we must not overlook the means and techniques in the present-day world which not only enable us to improve existing modes, institutions and systems, but also to find fresh alternatives to them. This search for practical alternatives as part of genuine strategy of innovation seems to us to be one of the primary tasks of any educational undertaking."

Self-test 14

HOW WELL HAVE I UNDERSTOOD THIS UNIT?

Answer the following questions and then check your answers against those given at the end of this unit.

1. Some basic curriculum questions are:
   (a) ________________ shall we educate?
   (b) ________________ shall we teach?
   (c) ________________ shall we teach ________________?
   (d) ________________ shall we develop an educational system?
   (e) ________________ shall we evaluate an educational system?

2. Give a general broad definition for "curriculum".
3. Give a general definition of "curriculum development"
4. What two types of education must be considered when discussing African education?
5. Give at least 5 general classification of educational level and types.
6. List at least 5 socio-economic facors that affect the opportunity of access to education.
7. What two systems for reaching a National Education Policy Declaration were described in this unit? Draw them in schmatic representation.
8. List at least 8 methods of teaching.
9. What is the difference between the "Ideal Curriculum" and the "Operational Curriculum"?
10. List at least 8 factors which influence how a subject is being treated at secondary school.

FIND BELOW THE ANSWERS TO SELF-TEST 14

Please try to answer them without checking first, then check, and finally go back to the questions you answered incorrectly, and try to find out why you did so.

1. (a) Whom
   (b) What for
   (c) What
   (d) How
   (e) How
   (f) How

2. Curriculum is the administration, content, procedures, process, and philosphy of the transmission of attitudes, skills and knowledge as well as the research being carried out on all aspects of it.

3. Curriculum Development is the process of research and innovation which takes place in a formal content of learning institutions linked into a system where Ministries, Curriculum Centres, Research Institutes and such like exist.

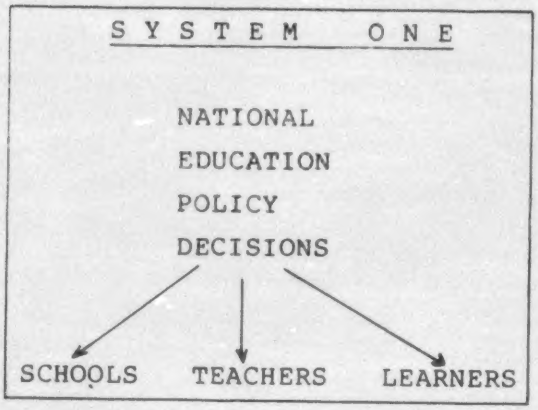
4. (a) traditional education
   (b) formal, modern education

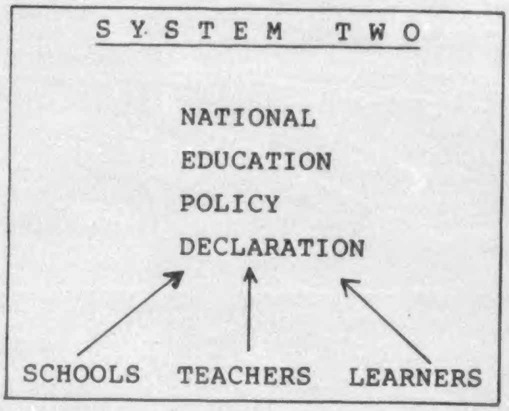
5. Some of these classification would be:
   Pre-primary education
   Primary education
   Secondary education
   Tertiary education
   Special education
   Adult education
   Higher education
   University education
   Formal education
   Informal education
   Continuing education
   Technical education
   Vocational education etc.

6. Some such factors would be:
   Elitism
   Tribalism
   School fees
   Parental occupation

   Geographical area of home
   Religion of parents
   Season of year
   Population of area
   Climate
   Sex
   Size of family etc.

7.


SYSTEM ONE
NATIONAL
EDUCATION
POLICY
DECISIONS
SCHOOLS
TEACHERS
LEARNERS


SYSTEM TWO
NATIONAL
EDUCATION
POLICY
DECLARATION
SCHOOLS
TEACHERS
LEARNERS

8. Some such methods would be:
   Lecture
   Seminar
   Panel
   Small group study
   Demonstration
   Dramatization
   Role play
   Tutorial
   Simulation games
   Film show
   Slide show or self-study slides
   Library period
   Programmed learning etc.

9. The "ideal" curriculum is that one for which a school or country aspires whereas the "operational" curriculum is what is actually being taught in the classroom.

10. Some such factors would be:
    National objectives
    Inspectors
    National and local examinations
    Text-books
    University findings

Unit 2: FORMULATION OF EDUCATIONAL OBJECTIVES

Required and further reading for Unit 2

As far as possible, we have either appended the necessary documents, or have made sure to send them to your national curriculum developments, or have made sure to send them to your national curriculum development centre's library.

N.L.Gage/D.C.Berliner: Educational Psychology. Rand McNally Publishing Co.: Chicago, 1979 (2nd ed.), especially the chapters on the formulation of educational objectives. Any other comprehensive text on educational psychology will also be useful and aceptable.

Arieh Lewy: Planning the School Curriculum. Unesco/IIEP, Paris 1977

There is a whole range of books in this area which we have now put at the disposal of your national curriculum development centre. More will be added to them.

Please feel encouraged to read and enquire as widely as possible in the preparation of your assignments.

UNIT TWO

FORMULATION OF EDUCATIONAL OBJECTIVES

OBJECTIVES:

When you have read the unit with understanding, and followed the prescribed activities, you should be able to:

(a) Give an account in outline of various conceptions of curriculum objectives (including behavioural and humanist approaches) and relate them to curriculum planning and development;

(b) identify features distinguishing behaviourist, humanist and other approaches to the formulation and use of educational objectives;

(c) understand, through engaging in critical analysis of relevant texts, the underlying philosophical and other assumptions of these various approaches or concepts.

INTRODUCTION

In recent years, we have experienced a strong movement in education whose main tenet is that curriculum must be planned by objectives.

The arguments put forward for this belief appear at first so convincing that one wonders why none has stumbled across this before. The curriculum planning by (behavioural) objectives movement has now become so powerful that in your everyday work as a curriculum developer you probably run into the danger of being told that you are not scientific, or that you are not being rational if you disagree with this approach.

This unit does not take the fundamental assumption for granted that curricula should be planned by (behavioural) objectives, but rather presents you with a number of conflicting views, and a number of alternatives, as well as with an introduction to behavrioural objectives.

In the presentation of alternatives, we shall only scratch the surface and will, for example, not go into details of existing experiences such as an activity or enquiry curriculum, as presented by SEPA (Science Education Programme for Africa), or the basic assumptions about such activity curricula, as e.g. sented by John Dewey.

This unit is constructed differently from the others insofar as you will first be introduced to some major readings on the whole topic, and technical details of some of the issues and concepts under discussion have been put at the end of the unit.

MAJOR READINGS

Reading 1

The following excerpt from Gage Berliner: Educational Psychology (1979, 2nd ed.) will give you an overview of the discussion about objectives. Feel free to do wider reading of others authors indicated in the text. Allow sufficient time for careful reading.

Overview

What do you want your students to learn? How should they behave differently after your course, subject, unit, or term - your whole encounter with them? Have you ever wished your teacher had told you more clearly what you should have been learning and why?

This chapter is aimed at helping you define educational objectives in the ways that will be most useful to you and your students. It goes into the reasons for stating objectives and the ways in which they should be stated. It describes a tool - the behaviour-content matrix - for organizing your ideas about what your students should learn from what you assign and teach them. Finally, in order to defend the effort required to develop useful objectives, we examine some arguments for and against this approach.

Why State Objectives?

Objectives in testing and training

Persons doing a variety of educational jobs have testified that statements of objectives are essential or at least helpful. In his influential Constructing Achievement Tests, R.W.Tyler (1934) asserted that the formulation of objectives is the necessary first step in developing tests. Gagne (1964) noted that in military training the specification of objectives was particularly necessary because of the close correspondence between training and actual job performance. Thus the clearer the objective, the better trained were the technicians who received instruction. In programmed instruction, which we consider in a later chapter, the attention of the developer is focused on the "terminal behaviour," that is, the accomplishments with which the learner is to be equipped. The learning process in programmed instruction "is greatly helped by the detailed specification of the behavior that the teacher wants the student to perform..... In teaching mathematics, for example, is the student to solve problems, apply his knowledge to new problems, prove theorems, or all three of these? The construction of a learning program can differ radically as a function of the criterion behavior chosen" (Taber, Glaser, & Schaefer, 1965, pp. 3 - 4).

Objectives in programmed instruction

Objectives in teaching

Finally, in planning classroom teaching, the formulation of objectives is often described as highly desirable (Tyler, 1964). Unless they formulate their objectives, teachers tend to be concerned merely with the content of instruction and to ignore what the student should learn to do with that content. If the "what to do" is ignored, students tend to assume that they need to memorize content. History teachers, for example, may want students to understand how past events influenced later events, to be able to draw on historical sources in explaining present-day events. Suppose, then, that the students read about a certain historical period, and the teacher gives tests over the readings. Unless otherwise informed, students may assume that they should merely memorize what they have read about the given historical period. They will not realize that they should look at contemporary problems in the light of historical perspective. "When objectives are identified and defined only casually, if at all, the students are likely to get the wrong image of what the teacher is trying to teach and what the student is expected to be able to do. He is misguided rather than helpfully steered in his learning efforts" (R.W.Tyler, 1964, p. 78).

Objectives can apply to education as a whole or only to teaching. Many educational objectives are broader and less tangible than any single teacher can aim at. In this chapter we shall focus on the teacher's objectives - what you want students to achieve as a result of your efforts.

Criteria for Formulating Objectives

Word magic

It is important to state objectives clearly. It is too easy merely to indulge in what Dyer (1967) called "word magic." For example:

> In the 1947 report of the President's Commission on Higher Education, there is the following paragraph:
>
> "The first goal in education for democracy is the full, rounded, and continuing development of the person. The discovery, training, and utilization of individual talents is of fundamental importance in a free society. To liberate and perfect the intrinsic powers of every citizen is the central purpose of democracy, and its furtherance of individual self-realization is its greatest glory."
>
> This is an example of word magic. It is an expression of an ideal to which presumably the greatest majority of Americans would presumably give verbal assent without having the foggiest notion of what the words are saying ... For it is no mean task for anybody, however sophisticated in words and their ways, to translate into specifiable operations such metaphoric expressions as "full, rounded, and continuing development of the person" or "liberated

and perfect the intrinsic powers of the citizen." Phrases like these sing to our enthusiasms, but they don't tell us what to do about them (Dyer, 1967, pp. 14 - 15).

To avoid word magic, educators and especially educational psychologists have increasingly adopted the principle that objectives should be stated in terms of observable behaviors of students.

An objective is a desired outcome of some activity. If we state that the desired outcome for students who read this book is an understanding of educational psychology, we have stated an objective. But is it a clear and explicit objective, stated in terms of observable behaviors? Do you know what is meant by "understanding" educational psychology? Perhaps we could clarify our objective by stating that the student should be able to grasp the significance of educational psychology, or that he should appreciate empirical methods in education. Perhaps we might require a student to know and appreciate the concepts and principles of educational psychology. All of these objectives are still examples of word magic. Unless you indicate what a student does when he "understands," "grasps significances," "knows," or "appreciates," you have described very little.

Specifying Evidence of Achievement

The kind of description needed is one which states the terminal behavior of a student in ways that specify the evidence that the objective has been achieved. Now we may state that among the many objectives for this book are the following:

Terminal
behavior

The student will be able to:
differtiate between correlational and experimental methods in educational psychology (Chapter 2).
write a description of advantages and disadvantages of stating objectives in behavioral terms (Chapter 3).

contrast the hereditarian and environmentalist arguments concerning the determiners of intelligence (Chapter 6).
solve a problem in classroom management using operant conditioning procedures (Chapter 13).
make up an original example of a circumstance that would justify use of the lecture method (Chapter 20).
identify the teaching behaviors associated with humanistic approaches to teaching (Chapter 23).

Each of the above objectives is more precise than those that used words like understand or appreciate. Listing, writing, identifying, and differentiating are more acceptable ways of stating terminal behaviors.

Stating Conditions of Performance

Conditions of performance

But they are not yet clear enough. These statements of behavior can be refined by also specifying the important conditions under which the behavior is expected to occur. For example, if the objective were "to be able to contrast the hereditarian and environmentalist arguments about the determiners of intelligence," we could also state that this is to be done without the use of class notes and without the text. We might note whether the behavior of contrasting is to take place at home or class, whether it is to be oral or written, and whether it is to rely upon this text or upon some other specified texts and articles for background.

Examples of the format for objectives that note important conditions are:

Given a problem in factoring ...
Given a list of well-known American novelists ...
Given any reference of the learner's choice ...
Using the following tools ...
Using an outline map of California ...
(See Mager, 1962, p. 26.)

Stating Acceptable Levels of Performance

Our objectives still are not in their clearest form. For example, to state that the student must "be able to solve quadratic equations" is a start at an objective. To add to that statement the condition that the student may look at a certain formula clarifies the situation. But ultimately we must also state the minimum acceptable level of performance. Should the student be able to solve one type of problem? Three? Four out of six? Question in only one form? Or in several forms? We need to make clear to the learner the criterion of success in achieving the objective.

> Our objective might finally be stated as follows:
> The student must be able to solve 8 out of 10 of the quadratic equations, of the type $AX^2 + BX + C = 0$, in class without any aids.
>
> Other examples of the format for objectives that specify the criterion level are:
> ...must list four steps...
> ...answer all ten multiple-choice items correctly...
> ...distinguish three main ideas....
> (Kibler, Barker, & Miles, 1970).

Thus, it is not enogh to say that students should be able to add. We might also specify how many digits the numbers to be added contain, how many rows of numbers will be in each column, how fast the addition should be done, and what the criterion for success is. It would be inadequate merely to aim at "understanding" the writing style of Ernest Hemingway; it would be less inadequate to say, "Given 10 pairs of short prose passages - each pair having one selection by Ernest Hemingway and one by a different author - the student is able to choose at least 9 of the 10 selections written by Hemingway" (see Esbenson, 1967, p. 247). In science, rather than mere understanding of the concept of osmosis, the objective could be ability to:

1. Construct a definition of the word osmosis.
2. Identify a situation involving the process of osmosis from a list of written situations.
3. Describe in writing how the process of osmosis is involved in a particular experiment (Montague & Butts, 1968, pp. 33-34).

Criteria for judging objectives

Table 3-1 lists objectives from different subjects areas and includes different kinds of behaviors. You should try formulating some of your own objectives, keeping in mind these criteria:

1. Does the statement describe what the learners will be doing when they are domonstrating that they have reached the objective?

2. Does the statement describe the important conditions (givens and/or restrictions) under which the learner will be expected to domonstrate competence?

3. Does the statement indicate how the learner will be evaluated? Does it describe at least the lower limit of acceptable performance (Mager, 1962, p. 52)?

Table 3-1
Examples of Objectives

A. When given a series of instances of government activities, the student can identify the instance as the proper interest of the legislative, judicial, or executive branch of goverment. (8 out of 10 correct)

B. In half an hour or less, the student will write five ways in which socialist and capitalist countries are alike and five ways in which they differ.

C. Without notes, the student will recall, without error, the formula for computing the rank-difference correlation coefficient.

D. Given the name of a note and the scale, a member of the chorus will be able to sing the note accurately 9 out of 10 times.

E. The student will be able to do 30 push-ups in three minutes.

F. Given an electronic calculator, the student can call out the answers to 100 percent of the multiplication and division items containing numbers up to seven digits.

G. When presented with pairs of paintings, the students can choose the painting of the impressionist period 7 out of 10 times.

It has been our objective that, given this introduction and one hour's time, the reader will be able to construct 15 behavioral objectives in any subject-matter area, 12 of which meet the criteria listed above.

Sensibleness in Developing Objectives

Advocates of behavioral objectives have stressed the need to specify the achievement desired of students in language that unambiguously focuses on observable behavior. Conditions of performance had to be noted and levels of acceptable performance had to be specified. But in most recent thinking about objectives (see Educational Technology, May and June, 1977) there has been a lessening of concern that everything be stated precisely. Some educators see virtue in vague objectives (Zahorik, 1976b). They claim that vague objectives often allow students to pursue their own means to the ends chosen by society. And many educators value this activity. More acceptance is now given to such objectives as: "The student should have an awareness of, concern for, and sense of responsibility about contemporary events, issues, and problems" (Dressel, 1977, p. 13). In our opinion such objectives, though vague, can still be useful when the key words in each statement are defined, examples of relevant learning experiences are given, and some ideas about evaluating achievement of the objective are presented.

In addition to a growing realization that not everything that teachers and students do should be stated with complete precision, the idea is emerging that no teacher should be required to base instruction upon the hundreds of objectives and subobjectives that could be specified for a unit, term, or year of instruction. Rather, a teacher should probably develop only 8-12 general objectives for a unit of instruction, to serve as an uncluttered road map for the planned instructional activities (Gronlund, 1978). This means that objectives for a unit of instruction need not specify every student behavior that is requird, just as road maps, to be useful, need not specify every town and creek between points A and B.

Small number of objectives O.K.

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Selftest: Before reading on, please recall the three main ingredients of a good statement of objectives:
(a) behavioural definition;
(b) conditions of performance;
(c) levels of performance

Please also try to put into your national context the statement about three distinctions in objectives:
(a) values vs. empirical
(b) societal vs. individual;
(c) maximum vs. typical behaviour

As you may guess from the last paragraph of Gagë/Berliner's treatment, there has been considerable discussion of the role and usefulness of strictly behavioural objectives. However, before you are introduced to arguments against behavioural objectives, please read carefully through the following text by A. Lewy (1978). This is the text to which your assignment refers.

SPECIFICATION OF CURRICULUM OBJECTIVES

The selection of objectives is a matter of choice, and therefore must be considered as representing the value judgments of those responsible for the schools. Nevertheless, the selection of curricular objectives can be facilitated by certain considerations. Clearly the relative importance of each of these considerations will vary in different curriculum projects, but some will always be important. Each curriculum development team must decide on their relevance and on their specific weight in determining curriculum objectives.

1. Major Considerations

Decisions about curriculum objectives are affected by factors related to processes of contemporary life outside the school, the needs of the learner and the nature of the subject matter.

(a) Contemporary life outside the school

Since society is in a constant state of change, the curriculum planner must be ready to select educational objectives in accordance with major currents of change. It is his role to analyse the implications of societal changes when deciding upon a new or altered programme of study.

(i) Manpower employment patterns: Manpower employment patterns tend to change. If, over a five-year period, some ten to twenty percent of those completing their education are entering industrial sector X rather than Y, or if there is a significant manpower switch from agriculture to industry, then clearly the types of knowledge, skills and values which will be required to prepare these people for employment will be somewhat different.

(ii) New behaviour requirements in health, welfare, politics and social activities: Social and cultural patterns of behaviour are in a state of evolution the world over. Changes should be identified and the curriculum should ensure that young people acquire the skills and attitudes needed to cope with everyday living in the society. For example, a society may be experiencing a transition from traditional to scientific medicine, one of the results being that new attitudes towards hygiene are demanded. The school then should function to equip the population with the appropriate knowledge, attitudes and personal habits.

Political changes and innovations must be dealt with in the school in order to prepare the individual to function adequately in his role as citizen. Changing social and economic conditions must be taken into account in the school's curriculum also.

Glaring anachronisms of curriculum particularly in newly independent countries, are manifold: British history may be taught rather than the history of the country; lessons in French geography are given instead of instruction in the geography of the local area; biology is taught with examples of flora and fauna from Europe rather than those common to the locale. In all of these examples, the curriculum is irrelevant to the social needs of the learners.

2. The Needs of the Learner

The modern society there is much overlap between needs emerging from contemporary social life and those emerging from the personal life of the learner. Adjustment to changing occupational patterns or to new health laws constitute both societal and individual needs. Nevertheless, one way identify behavioural patterns which are primarily of individual concern. Such are, for example, participation in social activities, peer-group relationships, and the development of personal traits such as endurance, tolerance, increased desire to participate in cultural activities, etc. Please refer to the relevant unit for a detailed discussion.

3. Subject Matter

The contemporary organisation of knowledge within any given subject-matter constitutes another consideration for determining objectives. For instance, in the sciences, new findings, topics, structures and terms are constantly being introduced. These should be identified and considered in the process of planning a new curriculum. If the educational programme is organised according to subject matter, with unique curriculum material developed for each subject, it is first necessary to identify the Major Educational Objectives (MEO) inherent in them or which can be obtained through their study. The MEO delineate broad areas of human behaviour and should first be translated into more specific curriculum objectives before they can serve specific guidelines for preparing instructional material.

As an illustration, MEO in History are given in Table 2.

TABLE 2. The major educational objectives of a history course

Cognitive objectives:

- The knowledge of important historic events.
- The acquisition of skills needed for independent study.
- The acquisition of basic conepts to describe historical phenomena and to explain them.
- The perception of historic phenomena in the context of values and ways of life of the past.
- The development of historical thinking (analytic, imaginative, synthetic).

Values:

- The judgment of historical events according to universal moral criteria.
- The development of sympathy and tolerance toward the way of life of other nations.
- The development of identification with the State and the People.

4. System Consideration

The three major considerations described above directly affect decisions about curriculum objectives. The curriculum planner, however, has to take into consideration certain characteristics of the educational system, too, before decisions about objectives are made.

(a). General educational aims

In many countries general educational aims are formally stated in governmental or legislative acts, while in other countries, where such formal acts do not exist, they are implicit in the value system of the society and in its educational tradition. People determining curriculum objectives should act in accordance with these general aims.

The formulation of general educational aims is of political significance. Such aims are usually stated in broad, general terms such that they secure the consensus of the great majority in the society. They serve as the basis of making decisions of how school life should be organised and what should be taught in school. However, in themselves they neither constitute nor directly determine the practical details of school life.

Examples of such political aims are: education must be organised so as to 'allow equal opportunity for all children', 'be a preparation for adult life', 'increase the average level of achievement in the population', 'encourage social integration,' 'make school life a more enjoyable and friendly experience,' 'develop more complex thinking in children', 'increase enrolment in elementary school', 'increase the supply of high-level manpower', 'educate students for easy assimilation into the labour market', and 'combine academic studies with practical and professional preparation'.

A statement of general educational aims sometimes reflects the goals toward which the society is striving, and often presents its image of the 'ideal man'. For an illustration of this point one can look, for example, at Article 1 of the Fundamental Law of Education in the Japanese Constitution of 1947:

> "Education should aim at the full development of personality, strive for the rearing of pupils sound in mind and body who shall love truth and justice, esteem individual value, respect labour, have a deep sense of responsibility, and be imbued with the independent spirit of builders of a peaceful state and society."

(b) The school system

A second type of consideration relevant to the selection of curriculum objectives is related to the organisational features of the school system. Does the system consist of a single comprehensive type of school for the whole student population, or does it consist of schools of different types such as academic, vocational, etc? How is the student population divided among the school? What are the selection procedures in the schools? Are there wide regional differences between schools in respect of financial resources, general student ability level, etc? Are there minority groups in the country who do not speak the language of the majority? Is teaching conducted in the students' mother tongue?

Answers to these questions will determine whether the curriculum objectives will be the same for all students of the system or will differ according to school type, geographical regions, etc.

The question of the language of instruction is especially important in multi-lingual countries. For example, in Nigeria a child first learns his vernacular language, then the main regional language (e.g. Haussa, Yoruba or Ibo), but the language of instruction in elementary school is English. It is important that the curriculum developers should have up-to-date knowledge about the students' proficiency in the language which serves as the medium of teaching.

5. Bringing Considerations Together

The considerations described above have not been chosen arbitrarily: they seem to have a general applicability. Each curriculum team must decide however on the weight given to these factors when making their decisions.

A schematic representation of the considerations and the relationship between them is presentd in Figure 1. It can be seen that three major groups of forces should be brought together in order to prepare a tentative list of objectives: the needs of the learner, contemporary life outside school, and the body of knowledge related to the subject matter.

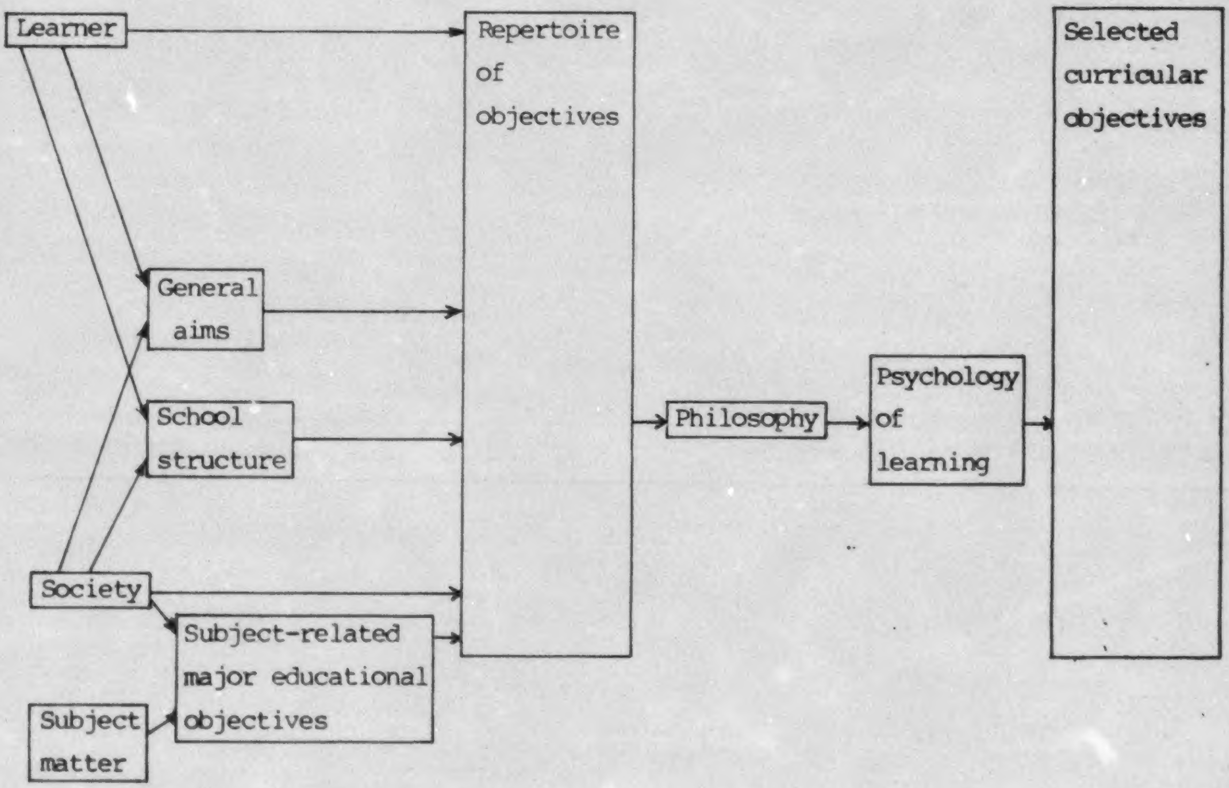
Learner
Repertoire of objectives
Selected curricular objectives
General aims
School structure
Philosophy
Psychology of learning
Society
Subject-related major educational objectives
Subject matter

FIGURE 1. Forces affecting selection of objectives (adapted from Tyler, 1950)

Contemporary life outside the school as well as the needs of the learner have an impact on setting the organisational structure of the school and on the formulation of general educational aims, whether they are explicitly stated or not. Thus, both contemporary life and the needs of the learner indirectly affect the objectives established through the mediation of General Aims and School Organisation; additionally, as indicated by a direct arrow, they also have a direct impact.

The subject matter will generally influence the derivation of objectives through the mediation of a list of agreed-upon MEOs. It should be noted, however, that the MEOs will reflect not only the structure of the subject matter but also considerations emanating from contemporary life. This can be seen by analysing the MEOs in History (Table 2 above), many items of which reflect social concern rather than the logical structure of the subject matter.

6. Screening Devices

The tentative list of objectives, derived in the way described above, contains more items than can be accommodated by a curriculum. Therefore, it should be considered as constituting a repetoire of objectives and further screening is needed in order to select those most suited for inclusion in the curriculum. The development team may utilise two types of screening criteria for producing the actual list of curricular objectives: (a) the values of society; (b) educational psychology.

(a) Values prevailing in the society

Values must be taken into consideration whenever one set of suggestions regarding objectives proves to be incompatible with others or whenever all suggestions cannot be followed because of time constraint. It then becomes necessary to choose a few consistent objectives and determine their priorities. Such decisions require value judgments based on the educational and social philosophy to which the decision-makers are committed. An adequate formulation of this philosophy will provide those values that education should seek to attain. These values serve as the criteria for every proposed objective. The curriculum builder should consider whether the objective is consistent with, in opposition to, or unrelated to these values. Some proposals will be accepted, and others rejected. Priorities will then be set among the accepted objectives.

Some of the values of which decisions might be based would be those entailed in issues such as the following:

Transfer of traditional values	vs.	demands of contemporary life
General education	vs.	specialist training
Spiritual values	vs.	material values
Personal satisfaction	vs.	social success

Value judgments can also be applied for determining priorities among classes of objectives. Thus, on the basis of value judgments one might assign higher priority to problem-solving skills than to accumulation of factual knowledge.

(b) The Psychology of Learning

Educational objectives constitute statements of the results to be acheived from learning. These desired results must be appropriate to the conditions inherent in the learning process. The knowledge accumulated in the field of educational psychology can be useful in determining what goals can be attained through school instruction and what sequence of goals would be most appropriate. The psychology of learning can enable us to distinguish which behavioural changes can be expected to result from a learning process and which cannot. For instance, young children can learn to channel their physical responses in socially desirable directions, but they cannot learn to inhibit these responses altogether.

Knowledge in psychology can also assist in the evaluation of the time required to bring about certain types of change. For example, to change the basic attitudes of children requres an effort extending over several years, since it has been discovered that bisic attitudes do not markedly shift after a few months of instruction. Similar data have been obtained regarding the time involved in changing ways of thinking and studying basic habits and practices, interests and the like. Similarly, knowledge about the stages of cognitive development can determine which objectives are most likely to be attainable at which of the various age levels.

THE CLASSIFICATION OF OBJECTIVES

Several attempts have been made to develop a classification scheme for educational objectives. These classification schemes have served, apart from anything else, as a tool for examining the balance of the curriculum objectives of a particular programme. The most widely used classification scheme is known as the Taxonomy of Educational Objectives, in which three domains are identified: (1) the cognitive; (2) the affective and (3) the psychomotor. Those categories within each domain which frequently appear in the framwork of curriculum development will be mentioned here.

1. The Cognitive Domain

Since according to present teaching practice, most educational objectives are of a cognitive nature, the cognitive taxonomy has become that most widely used. The six major categories of the taxonomy are frequently clustered into two groups: lower mental functions and higher mental funtions. (Bloom et al., 1956)

1. Knowledge - the recall of information. A specific fact of a generalisation may constitute the information recalled. It should be emphasised that knowledge means recall only, and not application of the information in a particular situation.

2. Comprehension - understanding of the message of a communication and the ability to explain or summarise it.

3. Application - the ability to use a principle, rule or method in a concrete situation.

4. Analysis - the ability to use a principle, rule or method in a concrete situation.

5. Synthesis - the ability to combine elements so as to form a whole. The category contains the notion of creativity which has in recent years been strongly emphasised as a worthwhile educational objective.

6. Evaluation - judging the value of material andmethods for a given purpose.

2. The Affective Domain

Affective objectives emphasise feelings, emotions and the degree of acceptance or rejection of a given phenomenon. These objectives occupy limited space in the more traditional sets of curriculum objectives, but their importance is now becoming more widely recognised. Attitudes, values and interests are types of affective behaviours. (Krathwohl et al, 1964).

Only the first three categories of this domain are mentioned here, because only they appear frequently in the formally stated lists of curricular objectives.

1. Receiving (attending) - This category is concerned with being aware of the existence of certain phenomena and revealing willingness of tolerate a stimulus. Thus, for example, being aware of the existence of classical music and being able to differentiate it from music of other types constitutes an example of receiving.

2. Responding - This is more than merely being aware of a phenomenon. It means active participation, such as going to a concert classical music or purposefully listening to a classical record.

3. Valuing - Behaviour categorised at this level is stabel and consistent. Thus a sustained interest in classical music, repeated visits to concerts, etc. constitute signs of valuing clasical music. De Landsheere (1975) refers to this category as 'taking initiative'.

3. The Psychomotor Domain

Several objectives related to the acquisition of practical skills and habits appear in a number of curriculum areas for example, practical and laboratory work in science subjects; work experience as a part of extended general education; handicrafts; psychomotor components of reading and writing, etc. A classification scheme of psychomotor skills has been developed by Dave (1969). The scheme is based on the concept of co-ordination between psychic and muscular actions and between different muscular actions performed by various parts of the body. The five categories of the scheme are listed below.

1. Imitation - Activities which do not require muscular co-ordination.

2. Manupulation - Following directions, acting according to instructions.

3. Precision - The ability to increase speed of action, and to introduce modifications according to specific needs of a particular situation.

4. Articulation - Co-ordination of series of acts by establishing appropriate sequence, developing efficiency to perform a number of related acts simultaneously and sequentially.

5. Naturalization - Routinizing the act to such an extent that it results in automatic and spontaneous response.

Education objectives appearing in various subjects usually pertain to the higher-level categories of this scheme.

SHOULD EDUCATIONAL OBJECTIVES BE STATED?

Most curriculum theory experts emphasise the need to start the development of a programme by specifying a behaviourally-defined set of objectives. They stress that this is necessary also to enable the assessment of a programme's effectiveness in obtaining its goals. There are however opponents who believe that not always is it advisable to even possible to state objectives in advance (Eisner 1967). Eisner summarised his arguments as follows:

1. The dynamic and complex process of instruction yields outcomes far too numerous to be specified in behavioural terms in advance.

2. In certain subject matters, such as in the fine arts, novel or creative responses are desired, and therefore the particular behaviours to be specified cannot easily be identified.

3. Not all outcomes, of curriculum are amenable to measurement.

4. Educational objectives need not precede the selection and organisation of content.

A strong position against explicitly stating educational objectives characterizes several recently developed curricula. Their major concern is the shaping of adequate learning activities which are aimed at enhancing students' mental, emotional and physical growth. The developers of these programmes believe that one first has to indentify a topic which provides opportunities for a variety of interesting learning experiences, and then to stimulate students to answer questions, to solve problems, to exercise creative immagination and to participate in worthwhile learning activities. The teacher's role is to structure the learning environment and to ensure conditions which will increase the students' interest and involvement in work. Thus, rather than specifying the desired outcomes of an educational programme the curriclum worker in such cases attempts to suggest a variety of experiences, activities, processes, negotiation patterns, etc., which can beneficially affect student's growth.

These arguments suggest an alternative way of curriculum development which has proved to be efficient in instances where highly talented and well trained teachers have assumed responsibility for implementing the programme. But even if one denies the desiability of explicitly stating educational objectives it seems desirable that curriculum workers be cognizant of the notion of behaviourally defined educational objectives and of the taxonomic schemes for their classification. Such knowledge is necessary to ensure a proper balance of suggested learning activities. The curriculum writer as well the teacher should keep in mind that learning activities should not over-concentrate on memorizing facts. Such a distinction implies reliance on the taxonomic scheme, even if the curriculum writer is not aware of it."

ARGUMENTS FOR AND AGAINST BEHAVIOURAL OBJECTIVES

Throughout the 1970s, a fierce debate had been raging for and against the use of strictly behavioural objectives. The debate has now cooled down, and while behaviourism as a complete philosophy is not longer acceptable to many, behaviourism as a technique still has a useful place. You are expected to make up your own mind about the value of the concept of behavioural objectives. Below some arguments presented for, and against. Please read carefully.

The first of these presentations contains 11 arguments to which W.O. Popham reacted in his "probing the validity of the arguments against behavioural objectives" (1968), republished in Popham, & E.W. Eisner, H.O. Sullivan, C.L. Tyles: Instructional Objectives. Rand McNally: Chicago, 1969:

1. Trival learner behaviours are the easiest to operationalize, hence the really important outcomes of education will be underemphasized.

2. Prespecification of explicit goals prevents the teacher from taking advantage of instructional opportunities unexpectedly occuring in the classroom.

3. Besides pupil behaviour changes, there are other types of educational outcomes which are important such as changes in parental attitudes, the professional staff, community values, etc.

4. Measurability implies behaviour which can be objectively, mechanistically measured, hence there must be something dehumanizing about the approach.

5. It is somehow undemocratic to plan in advance precisely how the learner should behave after instruction.

6. That isn't really the way that teaching is; teachers rarely specify their goals in terms of measurable learner behaviours; so let's set realistic expectations of teachers.

7. In certain subject areas, e.g. fine arts and the humanities, it is more difficult to identify measurable pupil behaviours.

8. While loose general statements of objectives may appear worthwhile to an outsider, if most educational goals were stated precisely, they would be rvealed as generally innocuous.

9. Measurability implies accountability; teachers might be judged on their ability to produce results in learners rather than on the many bases now used as indices of competence.

10. It is far more difficult to generate such precise objectives than to talk about objectives in our customarily vague terms.

11. In evaluating the worth of instructional schemes, it is often the unanticipated results which are really important, but prespecified goals may make the evaluator inattentive to the unforeseen.

The following presentations contains both arguments for and against behavioural objectives, and is by M. McDonald - Ross: "Behavioural objectives: a critical review". Instructional Science, 1973, 2, 1, 1-52:

The advantages claimed for behavioural objectives

They form the basis of the only well-worked out method of rational planning in education.
They encourage educators to think and plan in detailed, specific terms.
They encourage educators to make explicit previously concealed values.
They provide a rational basis for evaluation.
They prescribe the choice of instructional means.
They form the basis of a self-improving system.
The system eventually achieves internal consistency.
And the system eventually realizes in practice the aims set in theory.
Objectives serve as a medium of communication.
Objectives can be made the basis for individualized instruction.

Objections to behavioural objectives

No consistent view exists as to the origin of objectives.
In the educational domain no well-defined prescriptions are available for deriving objectives.
Defining objectives before the event conflicts with voyages of exploration.
Advocates do not show how teachers can use objectives to guide unpredicted classroom events.
There are an extremely large number of paths through any body of knowledge, thus reducing the effectiveness of objectives in design.
In some disciplines criteria can only be applied after the event.
Objectives do not prescribe the validity of test items.
Objectives are inherently ambiguous.
The level of specificity problem has never been solved.
Objectives do not communicate intent unambiguously, especially to students.
Trivial objectives are the easiest to operationalize, and this is a problem.
The relevance of goal-referenced models of education can be questioned.
Weak prescriptions lead to cycling. This can be costly.
List of behaviours do not adequately reflect the structure of knowledge.

From what you have read, it appears that behavioural objectives have both advantages and disadvantages. Ivor K. Davies, in his book Objectives in Curriculum Design (McGraw-Hill: 1976, p.90) has presented the empirical evidence as he found it regarding objectives as guides to learning and recommendations for teachers and learners as follows:

Generally speaking, emprical pirical evidence suggests that:

* It is not worth while formally teaching learners how to use objectives as learning guides.
* It is worth while pointing out informally the usefulness of objectives.
* In conventional teaching, providing children with objectives can increase the amount of time needed.
* In independent learning, providing children with objectives can significantly decrase the time needed.

Nature of the learning task:

* Providing children with objectives enhances achievement, regardless of the level of learning involved.
* Topics involving the knowledge level in Bloom's taxonomy might benefit more by being prefaced with objectives than any other level.
* Providing children with objectives has a greater effect when conventional teaching methods are used. They appear to be largely superfluous when prestructured materials like programmed texts are employed.

Personal characteristics of the learner:

* Middle-ability learners benefit more from being provided with objectives than either upper or lower-ability learners.
* Children who tend to be independent benefit less from being provided with objectives than children who are dependent and conscientious.
* Providing learners with objectives can reduce the reasoning requirements implicit in some topics.
* Males appear to benefit more from being provided with objectives than females.

However insightful such a presentation may be, please observe that most of his research evidence comes from Western sources. Therefore, please analyse each statement and try to check it against your experience! You may find it useful to read related African studies, e.g. R. Ogbonna Okuche and Barnabas Otaala: The African Child and his Environment, published for the Science Education Programme for Africa by UNEP/Pergamon Press: Oxford, 1981.

TRAINING PROGRAMME

For those of you who are interested in pursuing a training programme in the form of a Programmed Learning Text on Course Objectives, please refer to earlier edition of this unit which contains such a text. We shall also be happy to send you a separate copy of this document written by Barbara Matiru.

Please write to the course team.

OBJECTIVES AND TAXONOMIES

Please refer to Gage/Berliner for a more complete discussion. Copies of the text have been distributed to curriculum centres, either seperately or as part of earlier available editions of this unit.

This last part of this unit contains, in summary form, a number of tableş illuminating various patterns of the statement of objectives, as well as of the three major domains of the texonomy of educational objectives, as defined by Bloom, Krathwool and others.

For a better understanding, please also read more widely in texts on educational psychology on various processes of information, e.g. comprehension, application, analysis, synthesis and evaluation.

The following reading will introduce you in greater depth to the three major domains of the taxonomy of educational objectives: cognitive afective, and psychomotor. It will also introduce you to various processes of information, such as comprehension, application, analysis, synthesis, and evaluation.

Such reading should also introduce you to the concept of a hierarchy of learning tasks ranging from signal learning, through stimulus response learning and finally problem solving.

Please keep in mind that all the various concepts and techniques developed in the following reading have been designed so that you, as a curriculum developer, can make learning easier for others.

The first three examples show sets of general objectives written for various purposes (all examples from Prof. Davies book, op.cit.):

Pattern of procedures for teachers wishing to know how to use the Schools Council Humanities Curriculum Project materials, whilst still maintaining a strictly neutral role in the classroom discussion:

1. The fundamental educational values of rationality, imagination, sensitivity, readiness ot listen to the views of others, and so forth, must be built into the principles of procedure in the classroom.

2. The pattern of teaching must renounce the authority of the teacher as an 'expert' capable of solving value issues since this authority cannot be justified either epistemologically or politically. In short, the teacher must aspire to be neutral.

3. The teaching strategy must maintain the procedural authority of the teacher in the classroom, but contain it within rules which can be justified in terms of the need for discipline and rigour in attaining understanding.

4. The strategy must be such as to satisfy parents and pupils that every possible effort is being made to avoid the use of the teacher's authority position to indoctrinate his own views.

5. The procedure must enable pupils to understand divergence and hence must depend upon a group working together through discussion and shared activities. In such a group opinions should be protected from ridicule or from social pressure.

6. In sensitive issues, thought must be given to preserving pri- and protecting students, e.g. illegitimate children, children from broken homes, children of prostitutes, should be borne in mind when discussing the family or relations between the sexes.

7. Above all, the aim should be understanding. The implies that one should not force pupils towards opinions or premature commitments which harden into prejudice. Nor should one see particular virtue in a change of view. The object is that the pupils should come to understand the nature and implications of his point of view, and grow to adult responsibility by adopting in his own person and assuming acountability for it. Whether or not the pupil changes his point of view is not significant for the attainment of understanding.

Patterns of teaching procedures envisaged in the Schools Council Humanities Curriculum Project (Reproduced from Stenhouse, L.,1969 'Handling controversial issues in the classroom', Education Canada, 9,4,12-21)

By the time you have completed this block you should be able to:

Section 1 (Introduction)

1. Realize that research can make a positive contribution to thinking about educational problems.

2. Recognize the limitations of personal experience as a guide to decisions about education problems.

3. Recognize that consensus is rare without objective evidence.

4. Be aware of the impossibility of obtaining from research studies complete solutions to practical problems.

Section 2 (Scientific approaches)

5. Appreciate the way in which evidence may be drawn from a variety of sources.

6. Be aware of differences in opinion as to the extent to which scientific approaches are applicable to educational research.

7. Distinguish between nomothetic and idiographic methods and understand their relevance to educational enquiry.

Section 3 (Experimental Surveys)

8. Be aware of the general purpose of the course as a whole.

9. Distinguish among and understand the advantages and disadvantages of, case studies, descriptive surveys, explanatory surveys and experiments.

10. Understand a number of technical terms, such as causality and concomitant variation; dependent and independent variables; control; experimental and matched groups; and pre- and post-tests.

11. Recognize that exploratory studies have value in paving the way for more definitive investigations.

Section 4 (Strategies and constraints)

12. Understand in general terms what isinvolved in the stages generally identified in doing educational research.

13. Appreciate how practical constraints may influence both the design and the conduct of research studies.

Section 5 (Choosing research topics)

14. Know a little about the various institutions concerned with educational research.

15. Understand how to set about looking for a research topic to investigate.

16. Be aware of a variety of problems which might be worth investigating.

17. Appreciate that even small scale studies may be beneficial, at least to the person carrying out the study.

A set of general objectives for an open University block on 'The nature of educational research', (Reproduced from Entwistle, N.J. (1973) The nature of educational research. Educational studies: A third level course. Methods of educational inquiry. E341 Block 1. Bletchley: Open University)

OBECTIVES	CORRESPONDING ACTIVITIES	CORRESPONDING EVALUAITON
A. Skills The students will: 1. gain a historical perspective, appreciating the originality of a writer in relation to his time as well as the enduring qualities in writing.	read and discuss texts which were important when they were produced as well as those which have stood the test of time	(a) During the course by by means of: continuous assessment of essays, exposes and quality of oral contribution in tutorial groups, on the basis of acquired knowledge, sensitivity and ability to order ideas.
2. learn to write well in both English and French, showing logical organization, rechness of vocubulary, appropriateness of vocubulary, richness of grammatical structure and variety in type of sentence pattern.	discussion in small groups, comparing merits of writers, (tutor circulating)	(b) In final papers, essay-type questions demanding ability to organize ideas, integrate knowledge and personal reactions, to write fluently and inteligently under controlled conditions without recourse to dictionaries or reference books. A searching oral examination is given, requiring fluency in French and ability to discuss literary works and other matters of an intellectual nature. Written language proficiency is tested (at the moment) by means of a 3-hour Eng./Fr. trans. and a 3-hour essay (on a literary, abstract philosophical or moral topic).
3. learn to recognize differences between dsicursive and dramatic writing and to use both styles.		
B. Knowledge The students will: 1. become familiar with philosophical, aesthetic and moral views of major French writers from the Middle Ages to the present day.	background reading	
2. gain a knowledge of social background and history.		
3. study authors exemplifying varieties of form and subject matter and widely contrasting styles, e.g.: 16 cent. Rabelais, Ronsard, Montaigne, Debellay, etc. 17 cent. Racine, Moiliere, Corneille, La Rochefoucauld, 18 cent. Voltaire Rousseau, Diderot, Montesquieu, Marivaux, etc.	Comparison of writers in discussion, write on problems of moral philosophy in terms of theories and views expressed, comment on good qualities in common, etc. In 3rd year: write in their different styles. Attend lectures aimed at: (i) inspiring enthusiams for the subject, (ii) illuminating difficult	(a) Sessional examination at end of 1st year in 4 study areas (e.g. philosophy. 17th-cent. tragedy 19th-cent. novel. translation (Eng./Fr., Fr./Eng). (b) A final series of 8 3-hour papers covering history of French language literature from the Middle Ages to the present day. Essay-type questions.

19th cent. Chateaubriand, Constant, Mme de Stael, Hugo, Balzac, Baudelaire, Stendhal, Flaubert, Zola, Leconte de Lisle, Mallarme, etc. 20th cent. Gide Proust, Celine, Sartre, Beckett, Robbe- Grillet, IOnesco,etc.	authors' works, (iii) giving specialist guidance on bibliographies, (iv) synthesizing information available in books and periodicals, (v) giving information not available in print.
C. Aesthetic appreciation The students will:	
1. Learn to appreciate form and style in terms of intensity of experience conveyed, economy and concentration of style, power and impact.	discussion in small groups, comparing merits of writers
2. learn to distinguish and define those qualities which make writing memorable,	in 3rd year, writing in different styles.
3. study rhetorical style, e.g. incantatory power, auditive pleasure and persausiveness (as in Bossuet's sermons and De Gaulle's speeches).	

The next three examples are objectives written according to the "prescriptions of some of the foremost (behavioural) authors:

1. MODEL

(Condition) Given a reproduction of David's 'The oath of the Horatii', (Behavior) the student will outline six resons that may be used to substantiate the argument that this painting represented a new type of revolutionary clasicism in art. (Standards) Reference should be made to composition, action, expression and accessories in the reasons.

2. EXAMPLES

Given the details of the climatic statistics (monthly temperature, rainfall and humidity) for ten cities, the student will correctly identify in writing the name of the type of climate associated with each set of statistics. At least three reasons must be given substantiating the reasoning behind each of the ten decisions. The lower limit of acceptable performance will be 8 correct identifications out of 10 within a time period of thirty minutes.

Given a copy of Antonia Fraser's biography of *Cromwell: The Lord Protector*, the student will read the book and write a ten page essay relating the material in 'Part One: The Government of Himself', dealing with the years from 1599 to 1642, to the events in *either* 'Part Three' or 'Part Four'. The task is to be completed by the 22 August. The material in the essay should seek to justify John Milton's remark that Cromwell 'first acquired the government of himself, and over himself acquired the most signal victories, so that on the first day he took the field against the external enemy, he was a verteran in arms, consummately practised in the toils and exigencies of war.

The student will orally define the terms: electric charge, electrical current, electromotive force, resistance and potential difference. These five concepts should then be used to explain the principle of Ohm's Law.

The student will construct a simple network containing up to ten events, from a narrative describing the activities, without error or reference materials, and within a period of time not exceeding thirty minutes.

A series of examples written according to the format for objectives suggested by R.F. Mager

1. Verbs denoting the action to be performed (task verbs):
The right choice of an action verb is very important, ambiguity should be avoided. For this reason, verbs like 'write', 'solving', 'listing' are preferable to more ambiguous verbs like 'knowing', 'understanding', and 'appreciating'.

2. Verbs denoting the capability to be learned (achievement verbs):
The choice of this verb has grater implications for curriculum development and teaching. While the choice of action verbs is unlimited, the verb denoting the learned capability should be chosen, according to Gagne, from the following schema:

(a) Verbs for capabilities involving intellectual skills:
    (i) Procedural task: 'demonstrates',
        e.g. demonstrates by developing the photograph

    (ii) Discrimination task: 'discriminates',
        e.g. discriminates between latitude and longitude

    (iii) Conceptual task: 'identifies', 'classifies ,
        e.g., identifies an example of refraction
        e.g., classifies different sculptures

    (iv) Problem-solving task: 'generates'.
        e.g. generates a solution

(b) Verbs for capabilities involving non-intellectual tasks:
    (i) Cognitive strategies: 'originates',
        e.g. originates a sonnet

    (ii) Information skills: 'states',
        e.g., states Ohm's Law

    (iii) Motor skills: 'executes',
        e.g., executes a swallow dive

    (iv) Attitudes: 'chooses'
        e.g., chooses to value an idea

3. The role of the two verbs in an objective: an example
Given twelve sonnets, identifies (learned capability denoting a conceptual task) the sestet by underlining (action verb defining the specific performance required) the appropriate lines in each case.

The two verb components of a well-written objective (Partly based upon information in chapter 5 of Gagne, R. M. and Briggs, L. J. (1974) Principles of instructional design. New York: Holt, Rinehart & Winston).

1. MODEL

(Situation) Given a reproduction of David's 'The oath of the Horatii', (capability) the student generates (object) six reasons (action) that may be used to substantiate the argument that this painting represented a new type of revolutionary classicism in art. (Constraint) Reference should be made to composition, action, expression and accessories in the reasons.

2. EXAMPLES

Given a list of ten complex sentences, identifies the clauses, classifying them as adjectival or adverbial according to the definition previously given, without reference materials or other help.

Given a Norstedt science kit, the student demonstrates the relationship between potential difference, resistance and current by setting up a practical situation that enables the relationship to be observed and data collected.

Given a car radiator amd told to fill it with an appropriate amount of antifreeze for a British winter, the student identifies the amount of antifreezee required for temperatures not below -10 C, using a hydrometer and antifreeze calculating chart, and executes the task to an accuracy of within one-eight of a pint.

Given the responsibility of writing specific objectives for a new course in political science, the student-teacher identifies the aims goals and specific objectives from the information given and states these in list form using the format suggested by Dr. Robert Gagne whenever appropriate.

A series of examples written according to the format for objectives suggested by R. M. Gagne

On the next page, you will find an illustration of the use of a two-dimensional chart for stating objectives for a course in educational research.

Carefully study below two samples of other uses of objectives:

	Behavioural aspect of the objectives					
Content-aspect of the objectives	Knows terms	Knows procedures	Uses concept	Sees discrimination	Applies principle	Values idea
A BACKGROUND						
Methods of knowledge acquisition		x			x	x
Concepts in scientific enquiry			x	x		x
Nature of observation						
Sources of reference materials						
B. STAGES IN INQUIRY						
Identifying a problem	x	x			x	
Analysing a problem	x	x		x		
Solving a problem	x	x		x		
Evaluating a solution						
C. TYPES OF INQUIRY						
Theoretical	x		x	x	x	x
Historical	x		x	x	x	x
Descriptive	x		x	x		x
Experimental	x		x	x	x	x
D. TECHNIQUES						
Tools for inquiry	x	x				
Analysing data	x	x				
Making decisions	x	x				
Writing report	x	x				

Stage 1 'General Statement'

Subject: Geography

'The purpose of the written paper in geography is to evaluate the candidate's knowledge of an appropriate range of facts and definitions in geography; his skill in constructing and using maps and other tools of the geographer. Such knowledge, undertanding and skill to be evaluated by the written paper to be confined to areas of the candidate's immediate experience, his study of specific geographical areas, human activities, and environmental changes both physical and human, as well as to his appreciation of the interrelationship of men throughout the world'.

Stage 2 'Written Paper "Job Card" or "Table of Specifications"

	Behaviour					
Content	Knowledge of facts,etc.	Understanding of concepts	Application of concepts	Relevant Skills	Imaginative Insight	Total
British Isles	4	4	6	2	4	20
World geography	4	4	6	2	4	20
Special regions	4	4	4	4	4	20
World issues	8	4	2	2	4	20
Local geographical experience	4	3	3	6	4	20
	24	19	21	16	20	100

A framework for constructing an examination paper in Geography (Reproduced from Schools Council (1964). The Certificate of Secondary Education: an introduction to some techniques of examining, London: HMSO)

While the taxonomies of educational objectives at first appear rather awesome, you are nevertheless urged to take at least a look at them, and appreciate the tremendous work that has gone into them. The tables and presentations below are rather self-explanatory. In any questions, you should turn to Gage/Berliner or other educational psychology books. More discussion on this topic, if wanted, during the residential phase, or in personal contact with course team members!

MAJOR CATEGORIES IN BLOOM'S TAXONOMY	ASSOCIATED ACTION VERBS	SOME EXAMPLES OF GENERAL OBJECTIVES
INTELLECTUAL PROCESSES 6.00 *Evaluation.* This represents the highest level in the taxonomy. It includes a combination of all the previous five categories. Evaluation is concerned with making judgements about *value*. In order to make such an assessment, some yardstick or criterion is necessary as a standard against which things can be measured. The evaluation can be quantitative or qualitative, direct or indirect, subjective or objective. Usually judgements are made in terms of internal evidence, making judgements in terms of external criteria is regarded as the highest level of evaluative activity.	to evaluate to judge to decide to choose to assess to contrast to criticize to select to defend to support to attack to avoid to seek out to compare to determine	Compare and contrast two major theories accounting for the formation of volcanoes. Determine the logical fallacies in the arguments presented by Dupleis. Make an appropriate decision on the basis of the data presented. Evaluate a corriculum in terms of its announced aims and agreed objectives. Criticize the use of imagery in Rod McKuen's poem 'Speak to me in silence'. Decide the several advantages for using a taxonomy of educational objectives.
5.00 *Synthesis.* Synthesis is the opposite to analysis. It involves combining together a number of elements in order to form a coherent whole. The process involves logical deduction, and in this sense the category is intimately concerned with thinking and creativity. Synthesizing or combining elements involves doing something in a unique or original way. The discovery of pattern or structure is an important part of the activity. The sub-categories of synthesis are: production of a unique combination, production of a plan or proposed set of operations and derivation of a set of abstract relations.	to combine to restate to summarize to precis to generalize to conclude to derive to organize to design to deduce to classify to formulate to propose to compose	Summarize the normal cycle of erosion for streams and rivers. Design a module dealing with the concept of the sonnet. Propose three ways in which a hypothesis might be tested. Describe a personal experience that has happened to you whilst learning. Compose a three act play around the theme of self-fulfilment. Draw a generalization from the data that you have collected in the experiment that you have just performed.
4.00 *Analysis.* Analysis involves the breaking down, or the separation of a whole into its component parts. It is a process of reasoning or thinking. In its simplest form, analysis includes a simple listing of elements. A higher level of analysis involves determining the nature of the relationships between these elements. The highest form of analysis includes identifying the organizing principle or principles behind the actual material or phenomena concerned. At this level, analysis begins to take on many of the features of synthesis.	to analyse to identify to separate to break down to discriminate to distinguish to detect to categorise	Identify the assumptions that have been made in chapter five. Analyse this topic into its component parts. Distinguish the literary and stylistic techniques used in the following poem. Categorize the relationships between the phenomena listed above.
3.00 *Application.* Application involves using something in a specific manner. As such it includes relevancy, as well as the capacity for close attention to detail. Diligence and effort are also involved. The two lower categories of knowledge and comprehension are prerequisites to application. Interestingly enough, application involves an element of creativity, since it involves seeing how particular phenomena can be used in a new situation to which there is no specified solution. The skill of application underlies a great part of school learning, and is intimately concerned with some of the primary objectives of education.	to apply to show to demonstrate to use to perform to relate to develop to transfer to construct to explain to infer	Apply the principle of resistance to a novel situation in aerodynamics. Predict the possible consequences of a continued mixture of recession and inflation. Explain how Johann's conclusion was reached, when so little information was available. Infer the appropriate principle behind each of the following reactions. Transfer the concept of a field of force from physics to human behaviour.
2.00 *Comprehension.* Comprehension involves understanding or perceiving. It includes taking in, grasping, insight, and as such is highly stressed in school learning. In many ways, comprehension necessitates the processing of information, which may include changing that information into some parallel form more meaningful to the learner. Three sub-categories of comprehension are recognized: translation (changing something into another form), interpretation (elucidate or clarify meaning), and extrapolation (going beyond the information given).	to comprehend to understand to have insight into to predict to interpolate to extrapolate to interpret to translate to illustrate to draw	Translate the following passage from Latin to English. Give two examples of the above rule. Draw a graph illustrating the relationships between the following two sets of data. Interpret the following situation. Illustrate what is meant by a warranted and an unwarranted conclusion.
KNOWLEDGE AS A PRODUCT 1.00 *Knowledge.* Knowledge involves the rather elementary skill of recalling, or remembering specific information or experiences. The information recalled may include specific pieces of information terminology and facts. A higher level form of knowledge involves knowing the ways or means of dealing with information. This includes conventions, as well as trends and sequences, classifications and categories, criteria and methodology. The highest level of all involves a knowledge of universals and abstractions. This includes a knowledge of principles and generalizations, as well as theories and structures. The organizing principle behind these three broad sub-categories of knowledge is from highly specific and concrete knowledge to more complex and abstract ideas.	to describe to recall to define to state to identify to recognize to name to list to underline to reproduce to measure to label to write to acquire	Define the term 'light'. State what is meant by the expression 'there's no fool like an old fool'. Describe the stages in the so-called 'scientific method'. Recognize the correct generalization that can be drawn about the behaviour of metal when heated. State the relationship between temperature and pressure. Label the enclosed map of the major climatic regions of the world. Measure the distance between London and Birmingham.

A table for writing objectives in the cognitive domain (Based upon Bloom, (1956) *Taxonomy of educational objectives Handbook of cognitive domain.* New York: McKay)

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MAJOR CATEGORIES IN KRATHWOHL'S TAXONOMY	ASSOCIATED ACTION VERBS	SOME EXAMPLES OF GENERAL OBJECTIVES
5.00 *Characterization by a Value or Value Complex.* This represents the highest level in the taxonomy. Characterization, as the name implies, is concerned with a person's character, with his or her uniqueness as an individual. At this high level, values have been placed within a coherent framework, which lends consistency to what a person does or believes. This characterization is seen in the philosophy of life of a person, in their fundamental rules of conduct. Beliefs, ideas and attitudes are all fused together into an overall view of life. The subcategories are generalized set (this gives internal consistency to a system of values), and characterization (which is the peak of internalization).	to revise to change to face to accept to judge to develop to require to resolve to resist to reject to identify with to believe	Develops an internally consistent value system. Revises philosophy of life. Develops a sense of respect for human life. Believes in the worth and dignity of the person. Accepts the necessity for changing opinions in the light of new information. Develops a well organized set of values. Organizes the value structure implicit in Welsh education into a coherent system reflecting children's needs in an industrial and multi-racial environment.
4.00 *Organization.* Organization is involved when situations are encountered which involve more than one value or attitude. Under these circumstances some sort of organization or patterning is called for, otherwise behaviour becomes inconsistent and unpredictable. Organization, however, implies only the beginning of a value system, that is carried to its most developed form in characterization. In both cases, something more than an ability to put the value into words is called for, and some kind of ability to defend one's values is implied. Two sub-categories are included: conceptualization of a value (the value is abstract or symbolic), and organization of a value system (an ordered set of relationships is beginning to occur).	to discuss to organize to judge to relate to correlate to determine to associate to form to select to balance to define to formulate to weigh	Determines the features in an admired public figure. Relates own code of conduct to that of school. Forms own rationale as a prefect. Weighs the pros and cons for a course of action against the needs of friends. Develops a plan for identifying the rules for a new ecology club.
3.00 *Valuing.* Valuing implies that the attitude is regarded as having merit or intrinsic worth to the person concerned. It is worth while, useful, desirable; it is esteemed, appreciated, and important. At this level, the thing that is valued has taken on the characteristics of a belief, and as such has great motivating force upon the person concerned. Enthusiasm and interest are all involved. Three subcategories are identified: acceptance of a value (is seen to have worth), preference for a value (there is a sense of commitment, and commitment itself (this involves quite a high degree of certainty about the value). Initiation into a set of personally developed values is the very essence of what education is all about.	to accept to recognize to participate to increase to develop to attain to indicate to decide to influence to support to debate to argue to appreciate	Recognizes the value of the Zen philosophy. Becomes actively involved in Save the Children Fund. Accepts the importance of understanding other people's point of view. Indicates a preference for a particular type of literature. Appreciates the role of democracy in school governance. Accepts the place of the church in the village way of life. Supports the aims of the Humanities Project.
2.00 *Responding.* Responding implies that something more than merely attending is involved. Some sort of reply or answer occurs, and this suggests that a level of interest and motivation have been tapped as a resource. The level of commitment is low, but a degree of curiosity, or arousal has occurred. The subcategories of this level are: acquiescence in responding (learner reacts), willingness to respond, and satisfaction in response (sense of pleasure is evoked). Whatever the subcategory involved, however, the important thing to remember is the sense of willingness and pleasure involved in responding.	to state to answer to complete to select to list to record to develop to comply to follow to acclaim to applaud	Willingly states opinion. Does what is told. States the underlying assumptions. Voluntary agrees to save. Assumes responsibility when asked. Enjoys classical music. Finds satisfaction in Chaucer's poetry.
1.00 *Receiving (Attending).* Receiving or attending is the lowest level in the taxonomy. It implies only that the communication will be listened to or heeded, that the person involved is aware of message or stimulus. The subcategories are: awareness (conscious of what is happening), willingness to receive (will tolerate what is happening and will not seek to avoid it), and controlled or selected attention (will attend carefully to what is going on).	to listen to attend to receive to control to select to accumulate to be aware to perceive to favour to accept	Listens to what is said. Aware of the need for reconciliation. Sensitive to the situation. Conscious of the structure of a sonnet. Accepts differences in viewpoint. Alert to changes in pace. Studies newspapers.

A table for writing objectives in the affective domain (Based upon Krathwohl, D. R., Bloom, B. S. and Masia, B. B. (1964) *Taxonomy of educational objectives. Handbook II: Affective Domain.* New York: McKay)

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All the major categories in the three taxonomies are subdivided.
Below two subdivisions.

TAXONOMY CLASSIFICATION	EXAMPLES OF INFINITIVES	EXAMPLES OF DIRECT OBJECTS
1.00 Knowledge		
1.10 Knowledge of specifics		
1.11 Knowledge of terminology	to define, to distinguish, to acquire, to identify, to recall, to recognize	vocabulary, terms, terminology, meaning(s), definitions, referents, elements
1.12 Knowledge of specific facts	to recall, to recognize, to acquire, to identify	facts, factual information, (sources), (names), (dates), (events), (persons), (places), (time periods), properties, examples, phenomena
1.20 Knowledge of ways and means of dealing with specifics		
1.21 Knowledge of conventions	to recall, to identify, to recognize to acquire	form(s), conventions, uses, usage, rules, ways, devices, symbols, representations, style(s), format(s)
1.22 Knowledge of trends, sequences	to recall to recognize, to acquire, to identify	action(s), process, movement(s) continuity, development(s), trend(s) sequence(s), causes, relationship(s), forces, influences

(continued)

Instrumentation of the educational objectives in the cognitive domain Reproduced from Metfessel, N. S., Michael, W. B. and Kirsner, D. A. (1969) Instrumentation of Bloom's and Krathwohl's taxonomies for writing educational objectives. Psychology in the Schools 6, 3, 227-231)

TAXONOMY CLASSIFICATION	EXAMPLES OF INFINITIVES	EXAMPLES OF DIRECT OBJECTS
1.0 Receiving		
1.1 Awareness	to differentiate, to separate, to set apart, to share	sights, sounds, events designs, arrangements
1.2 Wilingness to receive	to accumulate, to select, to combine, to accept	models, examples, shapes, sizes, meters, cadences
1.3 Controlled or	to select, to posturally respond to, to listen (for), to control	alternatives, answers, rhythms, nuances
2.0 Responding		
2.1 Acquiescence in responding	to comply (with),to follow, to commend to approve	directions, instructions, laws, policies, demonstrations
2.2 Willingness to respond	to volunteer, to discuss, to practice, to play	instruments, games dramatic works,charades, burlesques
2.3 Satisfaction in response	to applaud, to acclaim, to spend leisure time in, to augment	speeches, plays, presentations, writings
3.0 valuing		
3.1 Acceptance of a value	to increase measured proficiency in, to increase number of, to relinquish, to specify	group membership(s). artistic production(s), musical productions, personal friendships
3.2 Preference for a value	to assist, to subsidize, to help, to support	artists, projects, view-points, arguments

(continued)

Instrumentation of the educational objectives in the cognitive domain Reproduced from Metfessel, N. S., Michael, W. B. and Kirsner, D. A. (1969) Instrumentation of Bloom's and Krathwohl's taxonomies for writing educational objectives. Psychology in the Schools 6, 3, 227-231)

TAXONOMY CLASSIFICATION	EXAMPLES OF INFINITIVES	EXAMPLES OF DIRECT OBJECTS
3.3 Commitment	to deny, to protest, to debate, to argue	deceptions, irrelevancies, abdications, irrationalities
4.0 Organization		
4.1 Conceptualizaiton of a value	to discuss, to theorize (on), to compare	parameters, codes, standards, goals
4.2 Organization of a value system	to balance, to organize, to define, to formulate	systems, approaches, criteria, limits
5.0 Characterization by value or value complex		
5.1 Generalized set	to revise, to change, to complete, to require	plans, behavior, methods, effort(s)
5.2 Characterization	to be rated high by peers in, to be rated high by superiors in, to be rated high by subordinates in and	humanitarianism,ethics, integrity. maturity
	to avoid, to manage, to resolve, to resist	extravagance(s), excesses, conflicts, exorbitancy/exorbitancies

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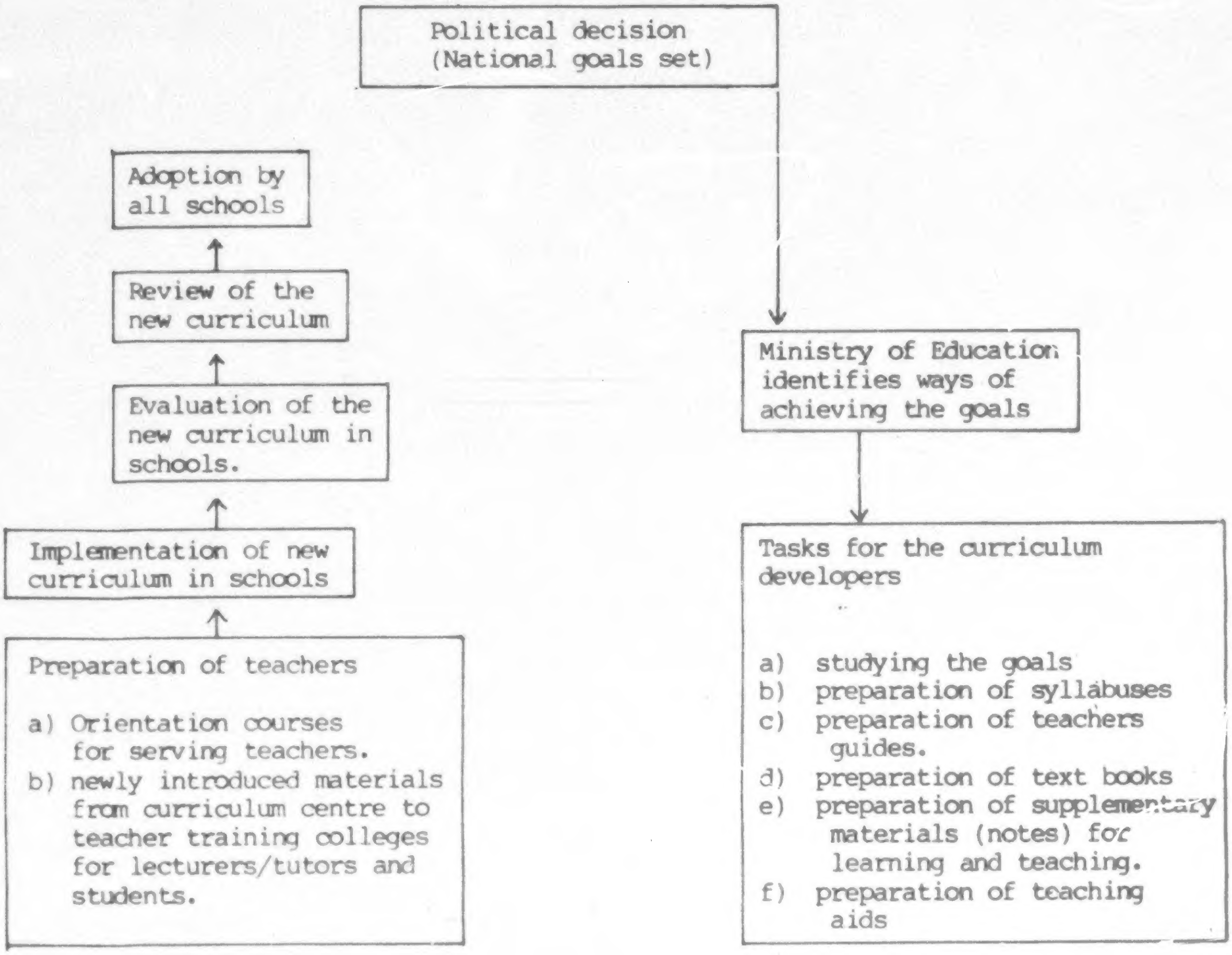
Instrumentation of the educational objectives in the cognitive domain Reproduced from Metfessel, N. S., Michael, W. B. and Kirsner, D. A. (1969) Instrumentation of Bloom's and Krathwohl's taxonomies for writing educational objectives. Psychology in the Schools 6, 3, 227-231)

UNIT 3: TRANSLATING NATIONAL GOALS INTO EDUCATIONAL PROGRAMMES

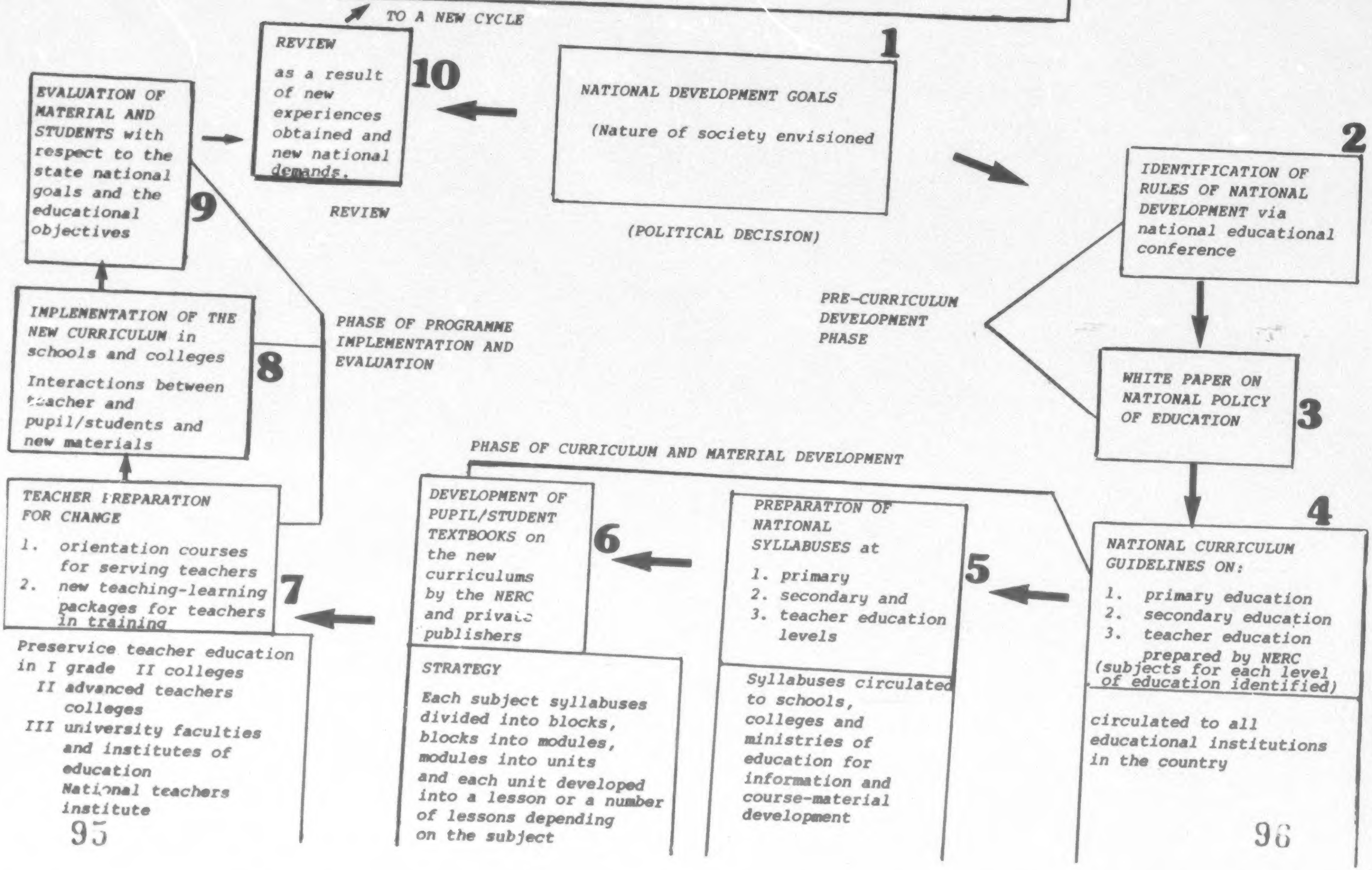
DETERMINING NATIONAL GOALS

Most often national goals are determined by the leaders of nations. The goals are political decisions. Once such decisions have been made the educators, and in some cases with the help of representatives from private sectors and other government bodies, identify the part and process to be taken by the Ministry of Education in achieving the national goals. The Ministry of Education will normally reform its old curriculum or develop a new one to be a guideline in achieving the national goals. The diagram below shows show national goals are translated into curriculum and instructional objectives.


Political decision (National goals set)
Ministry of Education identifies ways of achieving the goals
Tasks for the curriculum developers
a) studying the goals
b) preparation of syllabuses
c) preparation of teachers guides.
d) preparation of text books
e) preparation of supplementary materials (notes) for learning and teaching.
f) preparation of teaching aids
Preparation of teachers
a) Orientation courses for serving teachers.
b) newly introduced materials from curriculum centre to teacher training colleges for lecturers/tutors and students.
Implementation of new curriculum in schools
Evaluation of the new curriculum in schools.
Review of the new curriculum
Adoption by all schools

NATIONAL EDUCATIONAL DEVELOPMENT FROM THE DEFINITION OF NATIONAL GOALS THROUGH EDUCATIONAL POLICY DECLARATION AND CURRICULUM DEVELOPMENT TO TEXTBOOK PRODUCTION AND IMPLEMENTATION:

THE CASE OF NIGERIA



1 NATIONAL DEVELOPMENT GOALS
(Nature of society envisioned
(POLITICAL DECISION)

2 IDENTIFICATION OF RULES OF NATIONAL DEVELOPMENT via national educational conference

PRE-CURRICULUM DEVELOPMENT PHASE

3 WHITE PAPER ON NATIONAL POLICY OF EDUCATION

PHASE OF CURRICULUM AND MATERIAL DEVELOPMENT

4 NATIONAL CURRICULUM GUIDELINES ON:
1. primary education
2. secondary education
3. teacher education
prepared by NERC
(subjects for each level of education identified)

circulated to all educational institutions in the country

5 PREPARATION OF NATIONAL SYLLABUSES at
1. primary
2. secondary and
3. teacher education levels

Syllabuses circulated to schools, colleges and ministries of education for information and course-material development

6 DEVELOPMENT OF PUPIL/STUDENT TEXTBOOKS on the new curriculums by the NERC and private publishers

STRATEGY

Each subject syllabuses divided into blocks, blocks into modules, modules into units and each unit developed into a lesson or a number of lessons depending on the subject

7 TEACHER PREPARATION FOR CHANGE
1. orientation courses for serving teachers
2. new teaching-learning packages for teachers in training

Preservice teacher education in I grade II colleges
II advanced teachers colleges
III university faculties and institutes of education
National teachers institute

PHASE OF PROGRAMME IMPLEMENTATION AND EVALUATION

8 IMPLEMENTATION OF THE NEW CURRICULUM in schools and colleges
Interactions between teacher and pupil/students and new materials

9 EVALUATION OF MATERIAL AND STUDENTS with respect to the state national goals and the educational objectives

10 REVIEW
as a result of new experiences obtained and new national demands.

REVIEW

TO A NEW CYCLE

Self-test 1

Briefly state:

(a) What is a national goal?

(b) Who becomes the end-object of the national goal in the process of its being translated?

2. EQUALITY OF OPPORTUNITIES : U.S.A.

R. W. Tyler in his article in "Modern Viewpoints in the Curriculum" discusses Equality of Opportunities in Education as one of the goals of the United States of America Government. As economic, political and social life are becoming more complex, education has become the most important means by which an individual obtains the opportunity for significant participation in life. This opportunity for the individual includes moving from his home to those places where he may find employment which will allow him to participate fully in the social and political affairs of the community or nation.

Achieving this goal calls for the provision of schools to provide an educational programme to translate such goals into classroom activities.

3. NATIONAL DEVELOPMENT

Tyler continues to say that the development of economy and the increased productivity required to meet the consumption needs of a growing population in the urban and rural areas is the concern of education. At the same time national defence depends upon education and there are large increases in the educated people employed in health services, accounting, engineering of all

sorts, administration, defence and business. To achieve such material development a country requires responsible and literate citizens and it is through educational programmes that a literate community can be produced.
Is this still totally true?

Further ideas in this area are given in the reading that you should now study.

THE TANZANIAN CITIZEN

In a country such as Tanzania it is believed that education, whether formal or informal, has a major role to play in building up a socialist nation. As a result the Tanzania national goal has been to prepare the Tanzania citizen, especially adults. In this respect a literacy project was initiated closely linked with agricultural vocational training. The major goals of the project were to discover and develop practical and effective teaching and learning materials for the implementation of an agriculturally oriented literacy project, to evaluate the results of the project and to provide guidance for the literacy campaign in Tanzania.

It is interesting to note that the project brought under itself illiterate men and women who are now taught literacy and numeracy as related to agriculture. This knowledge helps them in solving their basic agricultural and cultural problems and prepares them for active participation in the development of the nation.

Read two case studies (a, b) that follow. Note that these case studies discuss in much more detail the educational programme that Tanzania has given (for experiment) to some areas of the country.

To thoroughly understand the case studies spare 50 to 60 minutes in which you can read and recall what you have read.

a) The Chiwanda Farm Project (Tanzania)

The area of Chiwanda comprises five villages in southwest Tanzania on Lake Nyasa, near Mozambique border (Ruvuma region). The number of inhabitants is 8,454 and the area covers 160 square miles. All villages have primary schools, although only two are fully completed. Water is available. Up to the beginning of the project subsistence farming was the rule. Root crop cultivation included the cultivation of maize, cassava, and peanuts. The farmers raised cattle and goats.

The project is a rural development project and aims at providing help for self-help. It came into existence in 1975 in the wake of the national radio compaign on nutrition. The farmers united to form radio groups, discussed what they had listened to, and tried to apply it to their situation.

The groups defined their learning needs as follows:-
- knowledge on foodstuffs and balanced diet
- improved farming methods
- knowledge on child care
- reading, writing, arithmetic
- simple techniques of project planning and progress control.

The project was founded because the farmers themselves realized that radio instruction alone would not be enough to correct the lack of protein in their diet. The Institute for Adult Education in Dar es Salaam, particularly its branch in Songea, was asked to cooperate. A planning team was established which consisted of the leaders and secretries of the five villages, representatives of TANU (Unity Party of Tanzania), representatives of the national women's association, and experts in agriculture, animal husbandry, health care, cooperatives, and education. It is not clear from the study whether or not the directors of the schools were on the planning team. They played an important role, however, in identifying learning needs and learning targets. The project was subsidized by SIDA and UNESCO. The total project was estimated at 65,000 Tanzania shillings (approx. US $ 10,000 at the time).

Preparatory studies showed that the protein shortage could be overcome by introducing new types of fruit (pineapple and oranges), introducing chicken breeding, and overcoming certain food taboos (for example, pregnant women are not allowed to eat eggs or beef). The project was discussed during a three-day seminar in which the village inhabitants were represented by the village leaders, the executive committees of the villages, and by one hundred so-called ten call leaders. 1)

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1) Tanzania democracy is structured as follows: ten cell ward, division, district, region, nation.

Since all concerned could not participate in planning, the planning process was to be rendered as democratic as possible. It was evident that only the farmers themselves could tailor the overall plan precisely according to their own needs, since it was they who had to test the new plants and cultivation techniques. Particularly in the area of Chiwanda various well-meant efforts had failed which aimed to encouraging the farmers to initiate the cultivation of grapes and ploughing my means of oxen. In addition, mill installations were lying ideal. The new project could be successful only if, at the very least, the "multipliers" were integrated in the decision-making process and thus assigned responsibility. In this first seminar and also in the planning committee it was possible to reach agreement as regards cooperation and division of labour. It was clear that a large number of ministries were involved at least indirectly, owing to the joint assignment of their experts. Thus coordinating problems which are always particularly difficult arose, problems which could, however, be solved through concentration on a specific task and the shifting of necessary decisions to the local level. For the "experts" this meant that they were there not to take decisions for others" but rather to act as catalyzers, a role which was difficult for some of them to play and which was at first not accepted by the farmers, who were used to acting on instruction.

After it was guaranteed that the project idea was supported by those directly affected, the farmers were taught simple planning techniques. Then various seminars were held in which the entire population took part. The cultivation of oranges, pineapple, and vegetables was practised, advise on chicken breeding and on how to ocercome food taboos was given, and methods of preparing tasty meals using eggs, fruits, and vegetables as ingredients were taught. The seminars took place whenever a step forward was made and the corresponding resources were available. The report states sufficiently that only after the first egg was laid could the corresponding education programme be realized.

Up to now the project seems to have fulfilled the hopes of all concerned: orange trees are blooming, pineapples are growing, and the chickens are laying eggs. The future of the produce at favourable prices for the market and whether or not, in view of the transport problems, a market will develop in the immediate surroundings.

The project has been successful so far. It has been operating now for little more than a year. It was successful because it involved only a small area, because the initiative was taken by those directly affected, and because it was possible to shift the decision-making process to the grass-roots level, thus overcoming coordinating problems which otherwise would have been taken to a higher instance (where difficulties in connection with competence usually arise). The objectives were concrete and the results were positive. The method was simple: the traditional form of the palaver was used in order to reach a decision or to present new techniques which were then practised in concrete productive work. The school was not neglected but it does not appear to have played an important role. The case study did not confirm the assumption that a better general education on the part of the participants would mean increased openmindedness or efficiency: the differences between farmers with a relatively good education and those with little or no education were not significant. The planning team did not make any effort to design a regular curriiculum. The procedure concentrated on individual cases and needs. The actual practice approach prevailed and was relatively easy to initiate. Projects of this type can be successful as long as they are small and uncomplicated. Problems arise when they are implemented on a broader scale.

The Chiwanda Project also shows, however, that even at local level success is not easy to achieve. The costs (ca DM 20,000) were not too high, but the work involved, the will to learn from experience and to over come traditional role behaviour, and the pedagogic efforts were enormous in relation to the results.

These results were of importance to those concerned, but within the overall context of the development of a whole country they remain negligible. In general only one staff member of the agricultural service and perhaps one health officer can be assigned to such a project, and this will automatically be reflected in the results.

In the last analysis the question as to how important 8,000 farmers are and how much effort is expanded on them is a political one.

The case study was prepared by:
The Institute of Adult Education
Dar es Salaam

Case Study Team: 1977

M. J. Kinunda
Y. K. C. Masisi
A. P. W. Mmalavi

Self-test 2

List the steps that were taken to initiate and develop this programme. Draw arrows to show how one step led to the next.

b) The Kwamsisi Community Education Centre (Tanzania)

Tanzania society considers itself to be a society of learning, within which the school serves to provide a direct preparation for life. The political priorities prvailing in Tanzania favour an environment-oriented basic education system serving to assist the population and more particularly the rural population to improve their living conditions. The traditional primary school should develop gradually into a community education centre for children, juveniles, and adults. Eight such community education centres are operating to date on an experimental level. The Kwamsisi centre is one these. It is situated in the Tanga region in the northwest of Tanzania, 15 km. from Korogwe, and lies within the catchment area of the Korogwe teacher training centre which provides the experiment with pedagogic support. There is also a secondary school and a further education centre for nurses in the district. The equipment for the community education centre was provided by UNICEF. UNESCO and DANIDA also participated in the implementation of the project which was started in 1968.

The first task was the development of a curriculum which would impart the knowledge, ideals and skills required for the development of the traditional economic sector. Ways had to be found to involve the entire village in a learning process which was to take the school as its point of departure. Other developement projects and all the existing adult education centres would have an appropriate contribution to make in the project, whilst the curriculum had to be oriented to comply with the aims of existing development projects and had to include them in the school instruction.

Those responsible for the project endeavoured from the outset to involve the inhabitants of the village in decision-making as to the nature of the needs-oriented learning goals to be set. During the course of a number of meetings the UNESCO counsellor and the experts from the teacher training institution consulted with teachers and village inhabitants, principally by way of the members of the Community Education Committee 1). Discussions

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1) In the Ujamma villages of Tanzania much responsibility is accorded to the committees, which are competent respectively for matters relating to finance and planning works, trade and commerce, education and defence.

revealed that instruction was required primarily in the fields of functional literacy, health care, water supply, and agriculture (especially cash crops) as well as in the social, cultural and political fields.

The national curriculum was accordingly adapted to conform with local circumstances. Only Arithmetic, English, and Kiswahili remained unmodified. Political education and community studies (natural sciences, domestic science, history, geography) were modified to suit local circumstances. Agriculture, health care, self-help, and instruction in traditional culture were added as integral parts of the curriculum.

There follows a brief survey of the content of the individual subjects which formerly did not consititute an integral part of the national curriculum and which therefore will illustrate the particularities of a Tanzanian community education centre.

	Political Education	Self-help	Health care
Adults	seminars on communal work seminars on development projects in the district	Communal field work: growing of food crops for own consumption cultivation of experimental field with cash crops functional literacy	importance of health services reasons underlying malnutrition prevention of illness preparation of drinking water
Juveniles	same as for adults	arable cultivation in cooperation with adults. Crafts: setting up workshop for manufacture of furniture	same as for adults

	Political Education	Self-help	Health care
Children	history of the the village initiation to communal work with village inhabitants	experiments in growing cotton and soyabeans initiation to communal field work with adults and juveniles crafts: basketry, pottery communal work to expand the school.	personal hygiene types and use of foodstuffs prevention of illness cleanliness in the village

In no way did children, juveniles, and adults have the same material to learn. Instruction was given to adults separately. They received additional instruction from staff members of the various services (agriculture, medical services, etc.) and were drawn into the national radio campaign on subjects such as health, nutrition, literacy, and political education.

For schoolchildren the national primary school curriculum was retained in principle in order not to hinder their mobility and advancement to the secondary school system. In order to guarantee primary education of equal value and at the same time not giving the impression of this being a second rate education for children from rural areas (dual school system), provision was made for classroom instruction to be continued in full i.e. none of it was to be sacrificed in favour of the other activities. The instruction methods had to be adapted to better suit the local circumstances and the wider curriculum.

It was here that the first difficulties arose. In order to maintain the uniformity of the national education system, the subjects which were of particular interest as regards the development of the community had to be taught as additional subjects. The problem of examinations remained unsolved. The teaching staff were inadequately prepared for the numerous additional subjects. The problem of examinations and that of coordinating the various services which were already part of the normal class instruction proved to be difficult. The problem of the numerous overtime hours arose. It was only after many hours of consultation that a practicable division of work found: the school assumed responsibility for the agricultural experiments whilst the community concentrated its efforts on dealing with that which was produced in the experiments. Juveniles represented a particularly difficult target group. It proved impossible to group them into class groups. The adults who had offered to teach them handicrafts later retracted their offer in favour of working for their own ends. New people moved into the village who had not yet come to terms with the ideals of socialism. The communal shamba (field) had to be redivided once again. Whereas formerly the adults took as much interest in teaching as in communal work in the field (for which purpose they were accordingly released), a tendency towards selfishness now became manifest: they preferred to work on their own land. It proved impossible to market the beans and so this experiment was abandoned. It was impossible to duplicate the teaching materials which had been provided by the neighbouring teacher training institution, and teacher's handbooks and primers for adults were not available in sufficient number. If the overall concept of a community education centre leaned itself to a Ujamaa village, it can be realized only if it is accompanied by marked circumstatial changes, among others in the economic and social spheres.

Nonetheless, the project cannot be termed a failure. Diseases such as bilharzia and scabies were eradicated and nutritional deficiencies were remedied. The staff of the governmental health services became more trusted than the medicine man. The village inhabitants learned to use fertilizers and to cultivate cotton as a source of income in addition to cattle-breeding. The proportion of cattle owners rose from 10 percent to 60 percent. The school was extended. A day centre for young children was set up so that schoolgirls no longer had to leave school prematurely if they became mothers. School attendance reaches 100 per cent of all children of school age. A football pitch was laid out. Considerable success was met with as regards retaining the school leavers in the village.

Finally, it can be assumed that the school in Kwamsisi did succeed in becoming integrated into the community, even if this was not entirely achieved. Whether and to which extent the project can succeed in the context of changing economic and social circumstances depends on the extent to which it can develop and, where necessary, apply alternative strategies. The Tanzanian authorities have in no way rejected such a proposal.

One must not overlook the fact that the purpose of an experimental project and by extension, of a case study also includes correcting the weak points in a concept. In this respect the case study prepared in Kenya met with particular success.

The case study was prepared by:

The Institute of Education - Dar es Salaam

Case Study Team:

M. I. Kinunda
G. L. Mizambwa
K. A. Hassan

Self-test 3

Briefly describe why Kwamsisi Project is a "Community Centre" project

If you are interested in these case studies: the full case studies are available from IIEP Paris. They were also reported, together with a preceding analysis, in: Peter Sachsenmeier: Reflections on Participatory Curriculum Development and Planning (1978), available from the German Foundation for International Development (DSE), Bonn, West Germany.

5. NATIONAL UNITY : KENYA

National unity has been one of the main goals to be achieved by the African States because this is what forms the basis for economic and social development.

The student must understand that in any society people tend to understand the need for unity against their common enemies which may be hunger, disease and envy, and/or a foreign country. But as victory and prosperity come you will see that it is not easy for the force of national unity to seem so real and important. The late President of Kenya, Mzee Jomo Kenyatta once said (1976)

> "......... our Republic continues to be faced with various types of challenges, both national and international, which require our unity and finding solutions".

This address referred to the way in which national unity helped the Kenyans to deal with national challenges. These challenges had arisen partly because of new political and trading patterns and the impact of world price rises. In these conditions lack of national unity would rsult in wastage of the nations resources that are essential for survival and improvement of the quality of life.

In addition you must also note that if a Government gets cooperation from the entire country it expects proper use of natural resources such as soil, forests, water etc. and it feels it has a good foundation for solving social and economic problems. Above all you ought to realize that national unity can be promoted through educational programmes such as the teaching of history, civics, traditional music, and national anthems.

Now read pages 3 - 5 of a report by the Republic of Kenya entitled "Report of the National Committee on Educational objectives and policies."

Self-test 4

(a) What does "national unity" mean? (One sentence answer)
(b) Why is national unity important for any country? (one sentence answer)
(c) How can children in schools develop a spirit of national unit? (15 - 20 lines)

6. MUTUAL SOCIAL RESPONSIBILITY AND SOCIAL ETHICS: KENYA

In the African village mutual social responsibility has been a long standing tradition. This means that village members do work for each other communally to have it done quickly.

As a national level Kenya has been one of the African States that has manifested this tradition through ative self-help projects undertaken by school youth, who come to work together. It is in the interest of the nation to see that the education system plays a basic role in promoting group spirit. Such projects are marked by the teacher and given one mark for the whole group. This is done in primary and Harambee Secondary Schools.

You ought to remember that in Kenya organized projects for groups of pupils are an important means of promoting group spirit. Such projects are marked by the teacher and given one mark for the whole group. This is done in primary and Harambee Secondary Schools.

It is also important that you know that it is in Kenya's national interest to provide the best harmony among her people through the teaching of religion. This is because religion provides a strict moral code to the society. In your society and in any African societys it has been a tradition to teach the youths social ethics as an integral part of their growth. The teaching of ethics today is one of the most important traditions incorporated in the Kenyan education system.

The following kinds of systems of social ethics have been the basic determinant of the quality of life: socialization, initiation, marriage, child bearing, sickness, death, food, shelter, community services, division of labour and the belief regarding ancestors, the past and religion.

In pages 5 - 9 of the "Report of the National Committee on Educational Objectives and Policies" Kenya's stand in this matter is made clear.

Self-test 5

a) i. What is mutual social responsibility?
   ii. Why is mutual social responisbility important for a nation?

b) What are ethics? List down five ethics of your own country.

7. CULTURAL VALUES: KENYA

Cultural constitues social organization, traditional technology, language, beliefs, religion,, and inherited traditions etc. Culture forms the basis for social life.

You must also note that all culture is transmitted from generation to generation through imitation, instruction and conservation. For instance, our parents teach children good behaviour, rules, language and basic skills. Also age-mates teach each other what they have learnt from elders.

In Kenya the school system was recommended to develop cultural values for the whole educational system to ensure that all Kenyan childrend adopt the different types of Kenyan cultural values so as to enhance the quality of life.

Self-test 5

Read page 9 - 10 of the "Report of the National Committee on Educational Objectives and Policies" and then answer this question:

How far is it true that culture is the basis for the identity of a society? (10 - 15 words)

The relevant part of the report has been appended

8. UNIFICATION OF THE BRITISH AND FRENCH SCHOOL SYSTEMS : CAMEROONIAN GOAL

After reading about the national goals and educational policies of East Africa, now turn your mind across the African continent to West Africa. In West Africa you will see how the Cameroonian Government worked out a plan towards the unification of its Francophone and Anglophone educational systems.

The multi-lingual nation of Cameroon has French and English as official languages. It has two systems of primary education as inherited from the colonial prowers but the government has been trying to unify the two systems in which the difference would only be the language of instruction.

Curricular reform

Herbert Bergmann and Udo Bude conducted a survey of primary schools and their communities, upon which the Cameroonian Government would make decisions towards the unification of the two educational systems.

A report on the research procedure and on preliminary results was published by H. Bergmann and U. Bude, "A survey of Primary Schools and their Communities for General Education and Policy-Making: The case of two provinces in Cameroon", International Review of Education, 1977/1, pp. 3-34. This article has been forwarded to curriculum centres as part of earlier editions of this course. Also, Hawes (1978) has reproduced parts of the final report on this experiment/research.

Read the following extract from the research work. It sums up the surveys results and their implication for the Government of Cameroon.

SURVEY IN CAMEROON

(Research results and their Implication for Policy Makers).

The previous sections have described the background of our research, how we set about our tasks, the instruments and procedures used, the methods of data processing which were followed and finally some indication of what it cost. It is now appropriate to speak of the results, and the implications these may hold for the makers of policy. It is not possible, however, to do this in detail, for the survey is in itself the basis of a considerable report. Moreover, this report is, at the time of writing, being integrated with the work of other sections of the Institute and being prepared for submission to Government.

There are, however, certain questions which are likely to be put by the educational administrators in any developing country contemplating curricular reform, and the decisions they take will be influenced by the information available. Some of the questions to which administrators would gladly have answers might include the following:

a) How serious is migration from rural areas by primary school leavers? Why do they leave their communities? Where do they go?

b) If curricular reform is introduced, what will be the attitude of teachers, parents and others?

   What changes would they like? What innovations would they resist? Why? How could resistance be minimised?

c) Are there differences in the level of school acheivement in different areas? If so, why? How can this this be remedied?

d) Is farming and the understanding of the role of agriculture as taught in schools satisfactory?

e) Is learning likely to be affected by the sheer physical conditions in schools? If so, what is the minimum financial input needed in the various areas?

f) If the new curriculum gives greater emphasis to farming and practical work, will examination results suffer?

g) Obviously a completely standardized and uniform curriculum is not suitable for a country with great geographical and climatic diversity, but is it possible to establish a limited number of typical environments for which standard curriculum variants can be developed?

These and other questions must be answered before curriculum reform can begin, if it is not to invite failure and misapplication of funds. A few of the major findings which following the processing of the data collected during our research may now begin, by way of illustration. They may be grouped according to the four areas in which research needs were defined earlier in this paper.

1. Assessment and Exact Description of Problems

   - One year after leaving primary school, 45 per cent of all school leavers had left their home community, mostly for further education

   - Two years after primary school, 55 per cent of all school leavers had left their community.

   - Migration, while concentrating on the administrative centres, also goes towards well developed rural areas.

2. Checking the Assumptions

   - While the paper qualifications of teachers were high compared to those of teachers in francophone Cameroon, there were few signs of crisis awareness. The teachers' attitude towards the reform and towards the school leavers problem was largely unstructured. A school reform would have to be preceded by a massive information campaign, but even more needed are changes in the financial and administrative conditions of the teachers, for whom problems of pay, promotion and transfer dominate the field of educational thinking.

- Although there were exceptions agriculture was not well taught in schools, and was not up to the standards set by the inspectorate. A great deal of close inspection and guidance as well as some financial input would be required in order to improve the situation.

- School acheivement in terms of passes at the First School Leaving Examination and the Entrance Examination for secondary schools, and of the proportion of pupils continuing education showed marked differences, in that the higher the level of development of a community, the higher was the proportion of passes and of pupils continuing with further education.

- The physical condition of the schools was often so bad that regular learning progress was jeopardized. Some financial input is needed especially in the remote and therefore poor areas.

3. Testing the feasibility of some of the proposals

- Good school farm work as measured by a combined score of 16 items covering the use of modern agricultural methods, the equipment used, teaching theory, and farm management results goes along with good examination results. Therefore introducing and/or reinforcing practical work in primary school does not endanger "academic performance" of the pupils as many teachers and parents have feared.

- Most of the felt needs of communities such as providing processing equipment for cash crops, marketing facilities, building new roads/bridges, water supply systems, installing electricity, etc. are out of reach for any action by the school, whereas at least some of them could be taken up by school leaver programmes.

- It is not possible to establish a limited number of typical environments for which curriculum variants can be developed. Three major criteria for zoning were identified: the access of a community to important services as a good approximation to the general level of development - the land use systems - the cultural groups. Each of these major criteria produces different zones cross-cutting each other

- thus keeping the curriculum open for local variations needs an approach different from a mere zoning exercise.

- School farms and teachers' private farms do have a spread effect on local farmers if they are well run. One might therefore try to use the schools as some kind of agricultural extension centre.

- Giving African culture a more prominent place in the curriculum would be greatly appreciated by the parents and may indeed be of help in overcoming initial apprehensions about the work orientation of primary school.

4. Collecting 'Raw Material'

A large amount of material was collected on cultural tradition, on community structure, and on Cameroonian agriculture. These data have been or will later be written up as background material for the development of courses in the area of 'Social Studies' and 'Rural Science'.

The above examples of some of the main findings of our survey indicate how much information is now available to help the Cameroon Government to reach sound decisions in planning its curricular reform. Naturally this is only a beginning. Everything in the end depends on what decisions regarding implementation are taken.

Self-test 7

List in note form the problems a curriculum developer must take into account when he plans a new curriculum for the Cameroon primary schools

NATIONAL CURRICULUM REFORM : BOTSWANA

" .... a Curriculum that is firmly rooted in the lives of the pupils and provides the skills required to achieve an economic and social revolution based upon the transformation of traditional agriculture and the exploitation of mineral resources, the diversification of the manufacturing industry and the development of new industries. In addition, primary education should be a course complete in itself, since for most children formal education ceases at or before Standard VII...... The aims of the primary school should be to promote: Permanent literacy in Setsuana and English, skill in mathematics to deal with everyday requirements, the acquisition of practical skills, an understanding of the environment and of the people living in it and high standards of individual and social conduct". (Curriculum and Curriculum Development in Botswana prepared by H.W.R. Hawes p. 19).

Already there have been changes in the mathematics syllabus and experiments on the lower primary school classes have been done. For example, an integrated studies project had been tried out in Standard III in Francistown. Another project based on the school garden at Simon Ratshosa School, Serowe was intended as a prototype for the sort of school work which would be tried out. Two days were taken for this project and 75 pupils in Stadard VI and VII were divided into 15 groups with the following tasks:

Gardening:	Four experimental plots set up. The same kind of seeds planted in each, different conditions in each plot.
Maths	Measurement of school garden perimeter and individual plots. Information then transferred to a scale plan. Study of weeds. These were drawn and painted and described in detail on charts, then two books made for the classroom.
Art	After distempering one classroom wall a large mural of the garden showing plots and the vegetables the 'workers' and their tools was painted direct on to the wall with powder paints.
Writing	Reporting was done with illustration and writing in Setswana and English of what was growing in the garden and what was happening in the garden.

Those who organised and took part in the project including local Education Officers, were impressed by the response of the learners and by the potential of the approach.

Clearly the possibility of introducing a limited number of project "blocks" into a programme is far easier to initiate and maintain than a more ambitious programme of integrated studies.

Self-test 8

Read "Curriculum and Curriculum Development in Botswana" by H. W. R. Hawes or his "Curriculum and reality" then answer the following questions

a) What skills does a curriculum provide for economic development.

b) What is the intention of the Botswana Government in praising "a curriculum that is firmly rooted in the lives of the pupils .....?

10. TRAINING FOR CITIZENSHIP : ZAMBIA

The Zambian Government has ever since the obtaining of independence aimed at educating a man who should be concious of his obligations to his fellow man and a man who should not ask his government to do something for him but who should wish to do something for his government.

Accordingly, this led to the process of revising primary and and secondary school syllabuses. For example, the aims of the civics syllabus for the secondary schools were:

a) to give the pupil some understanding of the political organization of society in Zambia at both local and Central Government levels.

b) to develop in the pupils some understanding of the factors affecting the economic development of Zambia.

Mbala Outward Bound School

This school caters for physical and character training which are supposed to toughen the individual. The courses expose students to face hazards and hardships with perserverance because it is the aim of the Government that future Zambia must have leaders who should not be soft.

Zambia Youth Service

You might have heard of the Kafue Central Training School. This is just one of the centres training Zambian youth in courses such as agriculture, brickwork, carpentry and mechanics. Education designed to promote national consciousness, patriotism and leadership is also offered in such schools.

It is also important to know that in Zambian schools and colleges the Zambian National Anthem has been introduced and the students are expected to know how to sing it and appreciate its meaning.

In introducing these activities into the educational system, the Zambian Government expects to produce good citizens who will help to achieve national unity and economic development for the nation.

For further details, read "The Growth of Education in Zambia Since Independence" (pages 241-256) by J. M. Mwanakatwe, reproduced as appendix.

Self-test 9

a) What is the importance of good citizenship? (one sentence answer)

b) Mention two more centres where Zambian youths have once been gathered to train in Youth Service.

c) What common national goals have you noted among any three countries you have read about in this unit? (3 sentence answer)

11. NATIONAL RESOURCES FOR THE IMPLEMENTATION OF NATIONAL GOALS

a) Environment

In order that national goals are implemented resources are required at any stage of development and implementation of the curriculum through which the goals are translated.

One of these resources you may normally not think of its the environment presents itself as a study or media resource: it provides real life situation and children can examine. It also offers chances for teaching one techniques of enquiry and enables contact to be made with as many resource persons as possible.

You will also see that the influence of the environment goes into every aspect of the classroom and affects both the teachers and the children. For instance, the children will respond to the media collected by the teacher from within the environment.

The facilities available within your reach may be found at the Former Training Centres, District Development Centres, and trading centres. Some school programmes would find such centres helpful in developing their classroom activities.

b) Time

It is essential, in the first stage, to understand the need for timing running through all the stages involved in translating national goals into educational programmes. Timing, for example, will allow you to see how urgently materials are needed for implementing your programme. You must have a schedule in which staff involvement and changes should be indicated well in advance.

c) Manpower

Also, of vital necessity, is the manpower. You need enough manpower to prepare all the teaching materials, introduce them to teachers, evaluate and review them.

Any changes in staffing may affect the schedule planned for curriculum development and implementation as well as evaluation.

d) Money

The need for money is obvious. You cannot do anything if you don't have money to buy some of the materials to be used in developing and implementing a new curriculum. If for example, your aim is to introduce citizenship courses to the schools, you have to pay for the paper to be used for citizenship course syllabus and for accommodating serving teachers at an orientation course.

Self-test 10

a) Mention 5 specific environmental aids you would use in the classroom.

b) In what way would the school community help you in your classroom activities?
(one sentence answer)

c) What is a resource?
(one sentence answer)

12. TEACHING MATERIALS AND METHODS

a) Materials

The national goals can be translated effectively into the classroom activities by effective means of teaching. Teaching materials must be developed so that teachers have efficient tools with which to work and achieve curriculum objectives. The teachers and pupils themselves can develop their own materials during handwork periods which they can use for teaching and learning respectively.

The learner can write down a history of his own family. He can produce simple pictures and write short stories, the best of which can be displayed on the display board. The teachers themselves can produce materials to illustrate national development in agriculture, religion, health
national development in agriculture, religion, health
activities, government departments etc.

b) Methods

If the teaching process is to reflect the national goals it must be flexible to adapt a process of feedback from the learner. In this way teaching and learning becomes a real process of translating objectives into classroom activities.

There are several characteristics of teaching mathods: Look at the following examples:

(i) Teaching within the real context

There should be no use of symbols if the real Object is within reach. For example, instead of drawing a desk and writing a name under it, one can use the desk itself and write a name on it. This saves time which would be wasted on drawing the desk and interpreting to the children that such a drawing is a desk.

(ii) Discussion in the learning process

Discussion is essential to help the learner give out concepts in his own words, thereby identifying himself with the concepts as his own. Discussion also develops to the reasoning powers of the learner.

(iii) Learning by teaching

The learner acquires much knowledge which he retains in order to transmit it to his clients. The teacher can involved the learner in introducing selected activities to others. In this way, the learner will acquire much knowledge.

(iv) Testing

There should be continuous testing based on the material taught to throw light on the topics and to indicate what improvement can be made. If educational objectives are to be attained, attention has to be paid to all aspects of educational tasks.

Self-test 11

HOW WELL HAVE I UNDERSTOOD THIS UNIT?

Answer the following questions and then check your answers with those given at the end of this Unit.

A. Put a tick (√) by those taks which belong to the Curriculum Developer.

1. Determine national goals ____________
2. Study national goals ____________
3. Prepare syllabuses ____________
4. Prepare teachers guides ____________
5. Identify ways of achieving national goals ____________
6. Prepare Textbooks ____________
7. Prepare teaching aids ____________
8. Make sure all schols adopt new curriculum ____________
9. Prepare supplementary materials for teaching and learning ____________
10. Organise national conferences ____________

B. Besides each national goal write the name of the country with which it has been identified in this unit.

GOAL	COUNTRY
1. community education for all ages	
2. education through self-help	
3. unification of the British and French school systems	
4. equality of opportunity	
5. national unity	
6. strong citizenship training	
7. learning based on local environment	

ANSWERS TO SLEFTEST 11

A 1
2

B 1. Tanzania
2. Kenya
3. Cameroon
4. U.S.A.
5. Kenya
6. Zambia
7. Botswana

APPENDICES TO UNIT 3

The Growth of Education in Zambia since Independence.
Oxford University Press, Lusaka, 1968
(by J. M. Mwanakatwe)
(abbreviated)

Training for Citizenship

In this chapter an attempt is made to outline some of the fields in which Zambias' broad educational system is developing so as to prepare the youth of the nation to serve their country and their fellowmen. After all, true education is a preparation for life. The nation as a whole must be involved. In other words, teachers, parents, and educational administrators have all a vital part to play. There are certain aspects of character training as well as training for citizenship which cannot be adequately fulfilled in the school environment.

CURRICULUM DEVELOPMENT

There has been a growing need over the years for drastic revision of existing syllabuses in primary and secondary schools which is urgently required. During the colonial era the type of textbook used generally for such subjects as English, history and arithmetic had an accent on the sort of things that a European child of approximately the same standard was required to learn. In other words, a characteristic of education during the colonial area was the endeavour by the educational administors to equate educational standards provided in colonial territories with those of the metropolitan power, either France, Britain, or some other power. Today the position is different. An attempt is being made to provide for the first time books with a Zambian environment and produced with the aspirations, amibitions and interests of the Zambian people. To make this policy effective the Government has promoted the establishment of the Kenneth Kaunda Foundaton which directs the policies of the National Educational Company of Zambia Limited and the National Educational Distribution Company of Zambia Limited. These two subsidiary companies of the Foundation are responsible for encouraging Zambians to write school textbooks and for distributing textbooks and students equipment to schools in Zambia. The earnings of all the subsidiaries of the Foundation will be channelled into development projects and into an extensive scholarship programme for gifted young Zambians.

The proces of revising syllabuses for all subjects of the junior secondary course was largely accomplished by the end of 1966. The curriculum development undertaken since independence for the primary and secondary courses has been a response to an urgent need to design syllabuses appropriate to local conditions. Training for citizenship should be more adequately fulfilled in the current civics and history syllabuses than in the past. For example, the aims of the civics sysllabus for the junior secondary school course is defined as follows:

(a) To give the student some understanding of the political organization of society in Zambia, at both the local and Central Government levels, within which he has to live.

(b) to develop in the student some understanding of the factors affecting the economic development in Zambia; and

(c) to introduce the students to the concept of the interdependence of nations and of Zambia's role in the world.

The process of curriculum reform and development is a continuing one. The beginning has been made but more remains to be done. It is important that in the development of the curriculum. Whereever possible, the emphasis ought to be placed upon the need to enable each student to understand his own role in the development of the nation.

The Outward Bound Courses

The Outward Bound School at Mbala was established in 1962 when twenty students received their first training. The schools is located in air area which provides the right kind of environment for physical endurance tests which are an important part of instruction in Outward Bound courses. In recent years business organizations which now appreciate the value of character training provided by Outward Bound have given generous donations. C.B.C. Shops Ltd. Barclays Bank, and Northern Breweries are among several donors of funds required both to maintain and to expand the Outward Bound School.

It is vitally important that the Outward Bound School should be expanded in future so that a larger number of students, executives (that is the personnel and training officers) and even young political party organizers, are afforded the apportunity to benefit from attending the courses offered at the school.

The Zambia Youth Service

Another important institution in training for citizenship is the Zambia Youth Service. It was established immediately after independence in 1965 as a means by which the energy and enthusiasm of a large number of young men and women who had played a prominent role in the emancipation of the country could be harnessed into constructive channels. The Service was rather haphazardly organized before proper principles for the training the youth were established and camps were created in two provinces to cater for the different needs of members of the Service.

Since the beginning of 1967 the objectives of the Zambia Youth Service has been redefined. Organisation of the Service has also been streamlined so as to make it an efficient, effective movement properly geared to inspire the youth to appreciate the importance of service to the community.

Apart, however, from the training which is provided in agriculture and various skills, members of the Zambia Youth Service at the Central Training School at Kafue and at camps in various provinces of the Republic are required to receive education designed to promote national consciousness, patriotism, discipline and leadership. The basis of this overriding training is that the youth who will be called upon to follow the difficult but rewarding life of rural farming must be patriotic. Otherwise the possession of knowledge and skills will not be themselves assist either the nation or individuals to move towards prosperity. It has been recognized that by far the greatest proportion of Zambians must expect to lead prosperous and contented lives on the land. Therefore, it is the young generation who must be prepared for the important task of developing the land resources of the nation. It is appreciated that the development of the rural areas is such an enormous responsibility that the energies of the youth must be mobilized to the greatest possible extent in the development of agriculture.

Recruitment to the Zambia Youth Service is voluntary and in no way compulsory.

Community Service Camps

It has been notable that with few exceptions most of the youth of the country have not responded satisfactorily to these challenging opportunities. It was expected after independence that young men and women would throw themselves wholeheartedly into various development schemes and would not spare themselves in making a contribution to the rapid growth of the new Zambia. Although there have been a number of honourable expections, that is examples exist of young men and women who have voluntarily participated in community self-help projects, it is fact that there has been a marked reluctance on the part of the country's youth to identify themselves with the National Development Plan.

In 1967, the Ministry of Education decided to stimulate secondary school students to a greater awareness of their duties and responsibilities as future leaders of the nation. A plan was conceived to encourage students to devote their full energy and enthusiasm to the development of Zambia. It was realized that if the students had a for a long time after independence stood aloof from the main stream of activity in the form of development in Zambia, it was because they had not been confronted with the challenge to participate positively in national development projects.

Therefore, the Ministry of Education planned to organize community service camps in all the eight provinces of the Republic over a period of two weeks which was to involve the participation of secondary school students drawn from Form II and Form IV classes. The Ministry of Education decided to involve students and make them responsible for certain small but important projects within the Four Year National Development Plan and this proved to the critics that the students were ready and willing to commit themselves fully to national ambitions and the programme of development.

THE NATIONAL ANTHEM AND THE NATIONAL FLAG

One of the most important and effective ways of training for citizenship is the use of the National Anthem in all types of schools and institutions. Students are expected to know how to sing the whole of the National Anthem, that is three verses and one refrain, and to appreciate fully the meaning of each part of the

National Anthem. By encouraging students to sing the National Anthem and translate the substance of the Anthem to the national hopes and a sense of patriotism can be engendered and national cohesion achieved. In the same way the national flag occupies an important role in building up a sense of unity and a sense of loyalty to the nation. Without the institutions of the National Anthem and the national flag, the ideal of a united and coherent nation would be completely frustrated, because there would be no basis or common outlook for unity.

CONCLUSION

The first years of Zambia's independence have revealed that tribal sentiments constitute the greatest danger to the national unity. Erstwhile great champions of our country's emancipation all too easily fall prey to personal ambitions in which the national interests do not count at all. Even to a greater extent than our long service fighters of our freedom, the upstarts whether in the realm of politics or business or the professions will not take stock of the serious consequences of provoking personal or tribal interests. The greatest stresses and strains which have beset the new independent African states have arisen primarily from corruption and a failure on the part of the political masters to learn the art of compromise in the national interest.

I believe that one of the most important functions of education in Africa or anywhere else in the world is to train future leaders in citizenship - to place at the nation's disposal the men and women who will not ask what their country can do for them, but rather what they can do for their country.

REPORT OF THE NATIONAL COMMITTEE ON EDUCATIONAL OBJECTIVES AND POLICIES

Government Printer: Nairobi, 1976, pp 9, 10

Cultural Values

Every society has a culture, although the degree to which it is reinforced, stabilized and nurtured varies from society to society. It constitutes social organization, technology, learned behaviour, values, languages, beliefs and religion. It also represents inherited traditions, folk-lore, myths and interpretations of man's destiny. It forms the basis for social collective identity and personality, social consciousness and definition of self. It forms a springboard for patriotic behaviour and loyalty, confidence, self-reliance and self-direction.

All culture is transmitted from generation to generation through learning, copying and conservation. This is carried out firstly in the family where parents teach children such things as basic behaviour, language, values, rules of human relations and basic skills of adaptability. It is also transmitted through community groups such as age mates, social groups and elders where the youth learn rules of human relations, norms regulating achievement and social ethics. This learning is then extended to the wider society in terms of adaptability to situations, application of skills and citizenship. The institutionalized and formalised school system must be planned and developed as an integral part of these social pressures.

The coming of western religion created among the African the so-called "Asomi" who aped western ways and looked down upon any indigenous cultural practices. The bulk of the population became the non-asomi. They were seen as a diffuse collectively of illiterates who could be ridiculed into a dehumanizing awareness of their low status in life. This process of alienation became successful through the exaltation of the supremacy of western religion, technology, and social values and downgrading completely the usefulness of any African traditions and practices. Africans were being reduced to being apologetic about being African through a process of conversion to the belief that they had to give up their social values to adopt those of the western people. The African children learned to be ashamed of their parents and home backgrounds with the associated loss of authority and credibility of their parents. In the long run this has produced weakened family systems, white-collar mentality and narrowly based materialistic education leading to individualistic tendencies. As a result, the fundamentally valuable ethics of African society have in many cases been abandoned under the influence of foreigners whose alternatives have often been accepted blindly. The question now is whether the adopted system of cultural values have the same basic value in terms of social survival and quality of life in the rapidly changing world of tomorrow in the environment of a developing country like Kenya. There is increasing evidence that they not.

The Committee has come to the conclusion that the education system which has in many cases been instrumental as an agent of social alienation must therefore be made to make the necessary social corrections by teaching a national culture and basic family and social life education. The aim of such a step will be to ensure national unity, survival and an enhanced quality of life in an incresingly internationally inter-dependent pattern of human life. The following recommendations attempt to suggest how this should be achieved.

Recommendation 13

To promote traditional practices that are conducive to national unity.

Recommendation 14

To direct the traditional development of the country so as to seve an an effective expression of the values and ways of life of the people of Kenya by adopting the various ethnically based traditional practices as part of a national culture.

Recommendation 15

To promote traditional practices that have educational and occupational values.

Recommendation 16

To integrate traditional practices with modern scientific and technological developments.

Recommendation 17

To codify and use the traditional practices which can serve as sources of basic knowledge.

Recommendation 18

To identify and catalogue traditional methodology and theories and to integrate such traditional education with the modern educational practices for life long continuing education.

Unit 4: DETERMINATION OF LEARNING NEEDS

OBJECTIVES

In this unit, you will be introduced to some of wider concerns that determine learning needs, e.g. philosophical, economical, demographical and political considerations.

You will also be introduced, at some length, to some current and past thinking in educational psychology which has had a major impact on the way we perceive the learning needs of young people from birth to adulthood.

At the end of the unit, you should be able to make a critical assessment of the way the learning needs of young people, as seen from different viewpoints, are fulfilled in the reality of the educational systems and schools you know.

As you will have seen in course I, Background to Curriculum Development in Africa, education has been conceived as a basic human right on the continent. However, the major problems of content of such education remain. The debate on content of education has largely be influenced by a discussion of the learning needs of (school) children and other learners; and this is also the topic of this unit.

Traditionally, learning needs assessment has been done from the point of view of different disciplines, right across from educational psychology to economic planning, with others such as philosophy, sociology and more specialised disciplines contributing. You will find an example of bringing together such a variety of disciplines in R.H. Dave (ed): Foundations of Lifelong Education. Pergamon Press, Oxford, 1976; a copy of which will be in your centre's library.

In this unit, you will only be able to see the surface of the debate on the determination of learning needs. Very often, this debate ties in strongly with a more general discussion of basic human needs and how these could possibly be fulfilled through more appropriate education systems.

The discussion on learning needs has become more and more urgent, especially in view of the fact that education as originally perceived does not seem to live up to the promises, especially as far as the provision of employable skills is concerned. In this context, a recent Kenyan Presidential Commission on Employment (1983) had this to say among other things:

In the course of our deliberations, it has come out clearly that the phenomenal expansion in facilities, enrolments and expenditure on education has largely been at the expense of quality in terms of content, relevance and capacity to respond to the changing needs of society. Whereas the initial aims of education were to equip the citizens with knowledge, skills and attitudes conducive to productivity and self-reliance, these objectives have been eclipsed by a new system of values and attitudes which far from depiciting the ideal citizen, is now widely held responsible for our society's apparent inability to cope with the strains and stresses of modernization, and for the serious problem of employment now prevalent in the country.

A major weakness in the education system has been its incapacity and inflexibility to adjust to the changing aspirations of individual Kenyans and the needs of the labour market in terms of new skills, new technologies and proper attitudes to work. This has resulted in the paradoxical situation where acute shortages of manpower and massive employment exist side by side. One example of this is the increasing number of school-leavers who, though educated, are unemployed either because they lack the specific skills required for wage employment or for selfemployment - or because the school-leavers themselves are selective about the type of jobs they think they have been prepared for.

In our view, one of the factors contributing to this situation is the type and quality of education being imparted in our schools. The subjects taught at primary and secondary levels are heavily biased towards intellectualization and very little is being done to develop adaptive skills. Ironically, the colonial system of education provided for the teaching of practical skills which school-leavers could apply immediately after leaving school. Although an attempt has been made in the recent past to introduce such subjects as agriculture in a few schools, the actual content and delivery of the subjects has largely remained at the theoretical level.

Parallel to this is the attitude that has developed among education administrators, employers and society in general of linking paper qualifications with jobs. This is evidenced by the fact that the formal qualifications being demanded by employers is rising rapidly when in fact such employers are able to absorb only a small fraction of the school-leavers with such qualifications. This notwithstanding, it has continued to be assumed that academic education will authomatically lead to wage employment. The efforts of our schools are therefore being directed to the passing of examinations instead of developing skills that can lead to self-employment for the majority of school-leavers who do not enter into wage employment.

These are larger considerations which must inevitably influence curriculum work in the country, and such ideas will certainly not be peculiar to Kenya alone.

Is the situation in your country similar? Are there any government policies which have direct influence on education and employment? Find out whether there are any documents relevant to this; they may be useful both in your residential phase work and in your research during the third phase!

In this unit, you will now be required to take a look at some important ideas in educational psychology which have a bearing on the learning needs of children, and the sequence in which we should structure the fulfillment of such needs. Later, we shall return to some of the more general issues on this topic.

PSYCHOLOGICAL RESEARCH SOURCES

Since education involves changes in a class of people called learners and these changes are called learning, it is obvious that education would be concerned with the psychology of learning. Many scholars have assumed, rightly or wrongly, that theories of learning would be the foundations of learning. Naturally psychological research would provide these theories. There are a number of learning theories with different emphasies and the problem of which one to select as the basis for teaching is one of the many of for a curriculum developer. Piaget's theory of Qualitative Stages (Developmental periods), Watson's and Skinner's behaviorism and Roger's humanism have influenced curriculum planning and teaching. It is proposed to give an overview of these three theories and further details on them can be found in the references. It must be emphasized that these are not the only theories, strictly speaking there are as many theories as there are scholars who are seriously thinking about them.

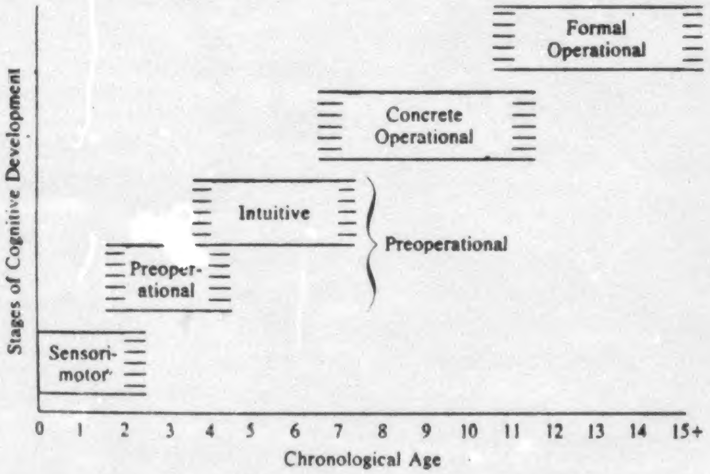
Piaget's Theory of Qualitative Stages

The system put forward by Piaget consists of a series of developmental stages. Each of these stages has similarities with and differences from the preceeding and succeeding stages while it has its own distinctive characteristics. In other words intellectual development does manifest patterns that emerge sequentially though sufficiently different from one another to warrant being classified as stages.

> "A requirement of stages is that they must follow each other in constant order, that is, their sequence is invariant, so that the second stage always follows the the first stage in every child, and no stage can be skipped. The age at which a given stage occurs may vary with different children, depending on intelligence, experience, and culture. Development may be arrested so that some individuals (for example, the mentally retarded) do not reach the final stages of development. Individuals may also be at different stages with regard to different tasks or content areas" (Petterson, 1978, p. 78).

Stages do not emerge abruptly. There is always an early period when structures of the preceding stage are tried along with the unperfected new structures.

The stages of development have been grouped into the following stages for the (Piaget) learner:


Formal Operational
Concrete Operational
Intuitive
Preoperational
Preoper- ational
Sensori- motor
Stages of Cognitive Development
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15+
Chronological Age

Curriculum Developers will perhaps be most interested in the Preoperational, the Concrete Operational and the Formal Operational stages since these will have most influence on the ways materials will have to be presented and in which learning occurs.

In the preoperational stage or phase, experiments have shown that the child can only focus on one attribute at a time: cannot conserve, in the language of Piaget. During the concrete operational stage, however, children can handle more than one attribute provided the operations are in the concrete. The period of Formal Operations, then, is characterised by cognitive operations that go beyond the concrete and can handle abstract situations. This last period conceives the child as being free from its dependance on the concrete and able to deal with the abstract.

Implications for Education

The work of Piaget shows that a child is not a miniature adult. There is a difference in thinking and perception of children at various stages as well as between children and adults. The fact that children before roughly the age of 7 (preoperational stage) can deal with one attribute at a time; and that children beyond the stage of seven may be able to handle more than one attribute in any learning situation should be borne in mind by curriculum developers. Furthermore it should be borne in mind that all children of school going age below the age of 11 (in primary schools) learn in an environment where the manipulation of actual objects is possible. In other words hardware development is an integral part of materials development for primary schools. This consideration has a bearing also on the type of topics that are suitable for primary and secondary schools. In the primary sector the topics must lend themselves easily to being illustrated by actual objects while in the secondary sector, it is not absolutely necessary unless subject considerations require this.

You should now read:

1. Durojaiye, M. O. A. A New Introduction to Education Psychology. London, Evans Bros. Ltd., 1976

2. Pattersen, C. H. Foundations for a Theory of Instruction and Educational Psychology. New York, Harper and Row, 1977; or any other textbooks on educational psychology you may find.

Self-test 1

How far in the curriculum in the school system of your country and the curriculum being prepared by the National Centre, has the theory of Project been incorporated? Perhaps you may be guided by the following considerations:

(i) Is the material for the 7 year olds and younger (usually referred to as lower primary) characterised by focussing one one attribute at a time and occasionally introducing more than one attribute?

(ii) How different is the material for children who are 7 years and older?

(iii) Does the material at the primary level emphasize activities?

(iv) What is the difference between primary school and secondary school materials?

(v) Can you suggest some improvements basedon concrete examples from the curriculum at both primary and secondary schools?

(vi) How far is the material perpared for the training of teachers in your subject area influenced by the age of children the student is being prepard to teach. Can you suggest some improvements?

Behaviourism

Behaviourism originated in the writings of Watson and was nurtured by such psychologists as Thorndike. Pavlov's experiments have influenced the development of this theory. However, the greatest desciple and the man who has done a lot in interpreting this theory into educational practice is

Skinner. He is regarded as the father of programmed instruction. Behaviourism is based on the concept that behaviour is under the control of environmental stimuli and that by creating an environment with appropriate stimuli desirable behaviours will result - a learning situation. According to this theory education is part of the controlling environment and is one of the methods used by societies to control behaviour. It is the view of those who support this theory that it is the function of education to transmit culture and to provide for the orderly changes necessary to assure the survival of the culture. The changes should not be left to chance, but should be planned. In other words expected behaviours that should emanate from learning should be clearly defined for the sake of well planned learning including that which leads to necessary changes. Though programmed learning is perhaps one method of instruction that does not only owe its origins from this theory, it is the one, more than any other, that represents its spirit. Programmed instruction involves a series of well defined steps leading to terminal performances which are the golas of a particular learning experience. The first step is to define accurately the terminal behaviour; that is, how the learner is expected to behave as a result of the programme. For example; after reading this unit the learner will associate behaviourism with Watson, Thorndike and Skinner.

Because it is known that living organisms (including man) engage in constant activity which brings them in contact with, and leads to interraction with the environment; (operant behaviour), appropriate stimuli must be planned to direct the interaction towards desirable behaviours. A strategy must be worked out to reinforce behaviour as it appears after each step. The most common reinforcement is a feedback that indicates to the learner the next step either as a result of good performance or needs for further explanations before proceeding (Magers book domonstrates this very well).

Those behind this theory claim that because it proceeds in small steps, programmed instruction minimizes trial-and-error learning and therefore mistakes. It capitalizes on positive reinforcement, both the extrinsic kind and the intrinsic reinforcement of success. Satisfaction with success plays a major role.

One of the advantges of programmed learning often quoted, is that programmes can be constructed in advance. They can be in the form of programmed textbooks or of teaching machines. Once the learner knows how to use the programmed text or the machine, the teacher is not necessary. A student can work independently while a teacher attends to others or if he was absent can start where he left off: This is also suitable where a student has to cover independently background information to some topic.

It must be said, however, that one of the main criticism against programmed instruction is that it is efficient in instruction that has been predetermined by the teacher (instructor) or indeed the system itself. There is very little chance for the learner to explore avenues that do not form part of what is predetermined.

Implications for Education

Behaviouristic approach emphasises clear definition of goals before planning a curriculum or lesson. It always helps to spend some time thinking about the goals of what the education system or a subject area is all about.

In programmed instruction the way of doing this is spelt out. It may not always be possible to be specific in spelling out certain objectives, but it helps even then to indicate the direction.
For imparting certain facts and skills, the programmed materials which spell out in detail what behaviours are expected at the end

of the learning experience are often found to be useful. The same can be said where materials are made to cover background knowledge to some topic especially where self-instruction is envisaged.

Self-test 2

Please refer back to Unit 2 of this course on educational objectives, and then do the following exercise:

Examine the texts used in the primary and secondary schools in your country. Are the objectives spelt out clearly? Are the objectives addressed to the teacher or to the learner? Using a book as an aid state how far the objectives meet the norms of programmed learning. Write out a few examples in a way perhaps more acceptable to you.

HUMANISM

Carl Rogers, in his book 'Freedom to Learn' has brought out the underlying thinking in humanism. To the humanist learning is personal and experiential. Significant learning occurs when the subject matter is perceived by the learner as being relevant for his purposes. Participation by the learner in the preocess of learning is basic, hence the emphasis in the learning processes so as to free progressively the individual from externally initiated aids to learning. As soon as possible the individual should be free to learn what interests him, be able to identify the help either in the form of a human facilitator or materials that will be necessary for the learning needs. Mastery of reading and writing is an example. This opens a whole field of knowledge. If one does not know a word a dictionary is consulted, but sometimes it is insufficient hence human help is necessary. In science, mastery of processes and basic concepts in an area frees the learner to solve a number of problems that are of interest to the individual.

It is assumed that human beings share a natural propensity for learning. They are by nature curious exploratory, desirous of discovering, knowing and experiencing. All this happens provided the individual is not threatened by unfair competition.

Humanists encourage open-endedness in education so as to involve the whole person. Learning should be significant through covering the psychomotor, the cognitive and the affective - experiential elements at appropriate moments.

It should not separate the mind from doing, from the heart and from feeling as most programmes do.

In time humanitic approaches the teacher is perceived as the facilitator of learning through providing and monitoring conditions which lead to meaningful and significant self-directed learning. The underlying objective is to develop a Community of Learners which includes the teacher. In such a community, curiosity is freed, the sense of inquiry is released, everything is open to questioning and exploration.

It must be admitted that this approach is threatening to rigid societies. Even in those communities which regard themselves as progressive adults often feel uneasy if the children are given the freedom of questioning and seeking reasons for everything. It is particlarly threatening to a badly prepared teacher. The argument often goes further to say that even an average teacher feels threatened where objectives are broad and not specific and therfore require a deeper insight of the children learning to be able to evaluate their levels. This approach may not lend itself easily to a centralised system, where supervisors (Inspectors) regard themselves as superiors to teachers.

Implications for Education

For a humanistic approach the materials should be child centred and open ended. They are usually addressed to the facilitator. Only those that are for developing certain basic skills may include pupils texts. The usual strategy in producing materials for the facilitators is to present a number of real examples; how various people tackled the problem and through analysing these cases develop a personal view of the method. The aim is to build personal knowledge, confidence and personal involvement.

Another prerequisite of the humanistic approach is the skill and sensitivity of the facilitator in identifying the need to learn a skill by the learner. Once identified the facilitator should have access to the materials that will make it possible for the learner to develop and practice the skill. Fortunately in a number of disciplines such as science the skills ranging from cognitive to psychomotor have been identified (AAAS Publications). If the learner for instance has problems in asking the right questions, the facilitator may work with the learner (or ask other learners to help the learner) in raising questions about his problem and related problems to the satisfaction of the learner (and the other learners in his community). On the whole, the facilitator should have an overview of the descipline, the learners and above all himself or herself. At no time should the facilitator be threatened by his role. He should respect the learners' abilities to the point of being able to put himself in the position of the learner. The implication of all this is that the teacher must be well prepared and continuously be in contact with reference points such as Teachers Centres to keep him abreast of the changing environment of the learner.

Self-test 3

One of the programmes that have attempted to put into practice some aspects of the humanist approach is the African Primary Science Programme. The units in particular "Ask the Ant Lion" and "Juba Beach", have been developed this spirit.
(which you are likely to find in your library)

(a) After reading the two units quote a few paragraphs that give a message to the teacher. Could you identify the kind of behaviour they are trying to develop in the teacher?

(b) List the factual knowledge that is devised from each unit
  (i) Which cognitive skills are emphasized?
  (ii) Which manual skills are emphasized?

Would you classify these units as humanistic or behaviouristic? Give reasons for your answer.

THE CONCEPT OF DEVELOPMENT TASKS

In the African context there are a number of situations that make it obligatory for a learner ot acquire certain competences by certain levels of his education. These competences are usually though not exclusively in the form of skills that make one employable. The situations can be classified into three main categories viz: societal expectations, national prescriptions and inevitable dangers in the educational system, such as drop outs.

(a) Societal Expectations

For a child to be functional and well adapted to a particular society he must be skilled in the chores that are traditionally performed by that age group. In almost all African countries some form of agriculture is practised by the rural communities. Children at various stages of their development are expected to have mastered certain skills. As early as the age of ten a Mosotho boy should be able to milk cows and inspan oxen. This example is true for many communities in Southern Africa. Girls by a certain age should be able to cook all the various traditional dishes. Girls who spend most of their time in formal school are often poor at this.

(b) National Policies

Certain countries, require the education system to produce self-reliant learners, in varying degrees, by certain stages in their development. The policy of Self-Reliance in Tanzania is a good example. Some countries go as far as postponing the starting age of the formal educational of the children so that by the end of their primary education the children are not only old enough to be employed, but that the education system got them old enough for it to prepare them for employment.

Recognising that certain skills especially those that involve the use of figures should be started while children are young, some schools are encouraged to start music and typing pretty early. It is in the primary schools that training in music especially instrumental music is begun. Usually specialists in local (even traditional) music are utilised by the school. In this case the teacher, usually a social studies teacher, watches over pedgogy. Dance always goes with music. It must always be borned in mind that education must also consciously develop the aesthetics - man does not live by work alone. Still on this question of manual skills, some countries recognising that a number of girls will be trained as secretaries especially those from urban areas, have encouraged typing to be started at the secondary level.

Sometimes bold individuals launch experiments that prove the inadequacies of the elilist type of education. In mind are the Brigades of Serowe, Botswana. Being convinced of the usefulness of the experiment, the country may wish to retain some aspects of the elitist - education while incorporating the new innovative ideas. The introduction of Development Studies in Botswana and Lesotho was due to Brigades. Manual skills now become part of the curriculum. The concept of development studies has, however, been difficult to conceive within the framework of the school system as understood at present hence various experts and commissions have been asked to review the status of Development Studies in one of these countries.

Inevitable Dangers in the Education System

In all African countries wastage in the form of what is usually referred to as drop-outs is very high especially in the primary school sector.

Usually in the interphases between primary and secondary schools many children find that they are unable to proceed in the formal education sytem. The main reasons for this is lack of facilities in the next sector. It is clear therefore that at the expected point of wastage children must already be in possession of those skills that will relate them fruitfully to the environment.

Implications for Education

The school curriculum should take cognizance of the competences expected by the society and the nation at various levels of the child's development. The curriculum developer should be able to translate these needs into curriculum and teaching objectives. Often these needs are not explicit and they have to be unearthed in obscure corners.

In most cases in tasks of this nature the school emphasises the skills and knowledge behind the task and the environment supplies the opportunity to practice the skills. This implies synchronising school and village activities. The curriculum developer must identify these tasks and work in the orchestration.

It often happens that the policy requirements are difficult to implement into the present framework of educational practise. Development Studies, quoted above, is an example in mind. These are supposed to be manual projects such as building, carpentry, practice in small shop management. All these experiences are difficult for any one school to provide let alone the expertise necessary to teach them. Examining this subject based on present day paper and pencil examinations, forms another dimension of difficulty. In other words, some of these task expectations falls into the category of curriculum changes which have far reaching consequences. They question the very assumptions on which the system is based. They call for fundamental changes.

To understand better the whole area of "Development Tasks" read (or similar books):

Nyerere, J.K. (1968). Education for Self-Reliance in Freedom and Socialism Uhuru na Ujamaa - A Selection from writings and speeches 1965 - 1967 Oxford University Press, Dar es Salaam.

Van Rensburg, P. (1974). Report from Swaneng Hill. Education and Employment in an African country. The Dag Hammerskjold Foundation Stockholm.

Self-test 4

Discuss the competence in terms of tasks expected of twelve years old boys and girls by

(a) the society
(b) the policy makers in your country
Indicate whether your information is from interviews or from published literature. In the case of the former indicate whether you interviewed the elders in the village, the chiefs, the teachers or government officials. If your information is from published literature indicate your source.

EXPERIMENTAL APPROACHES

> "We and the army of teachers who we hope will in the end make real our partial work, are experimenters in the schoolroom. But we are not the only experiments there. For it is the children who must become in all truth experimenters. Not good listeners, not quick memorizers, not people facilely following clear directions to a seen and given end, but real experimenters, testing nature and themselves with questions born of wonder and reared in understanding".
>
> Philip Morrison

This quotation from Morrison's writing puts the curriculum developers (referred to as "we" in the quotation), the teachers and the children into their respective roles in determining learning needs through experimentation. It also underlines one of the basic characteristics of curriculum development; that is, continuous curriculum renewal based on information that is being derived from the classroom, the real situation, for which the curriculum is being made.

The usual way of operation in this approach starts with curriculum developers using their experience in deciding tentatively what should be taught. They my also make tentative decisions on the age and level suitable for the material they have produced. The material is then put in the classroom. Normally, far more than is deemed necessary is exposed to children. Through interacting with the materials the children determine and pick the materials that meet their needs. It may be possible to find the reasons behind their choice. They may be physiological, cultural or psychological.

If the reasons for their choice are identified, it may be possible in future to draw up related materials to meet the needs of a similar group of learners.

Another point worth emphasising is that children's contribution to the identification of their learning needs go beyond working with the materials during the initial stages. Their interaction with the materials even when they are considered ready for

The other way could be through regular meetings between the teacher and curriculum developers. In these meetings what happened in the classroom is analysed. In some instances, the curriculum developers also work with the children for them to acquire first hand experience of the children's needs.

Self-test 5

Describe how a curriculum in a named subject was tested to find its relevance to the class for which it was meant, in your country.

With the description you have just read in mind, describe the feedback mechanism set up for channeling children's needs from the classroom to the curriculum developers. If there is none or it is imperfect in your judgement, suggest a strategy.

WHAT HAVE I LEARNED IN THIS UNIT?

Answer the following questions and then check your answers with those given at the end of this Unit.

Match the activity described with the teachings that probably influenced its design by placing the correct letter after each activity. Is there any overlap?

ACTIVITY

INFLUENCE

1. A curriculum developer is writing very spcific objectives (behavioural outcomes expected) for a science syllabus.

(________________________________)

(a) Behaviourism
(b) Humanism
(c) Theory of Qualitative stage
(d) Concept of Developmental Tasks

2. In a certain primary school the children are taught simple agriculture, carpentry, and domestic science.

(________________________________)

3. The students in a rural secondary school studying the problem of "grain storage". The teacher has invited local experts, provided relevant literature and has arranged field trips to provide first hand knowledge of a variety of methods used in the school compound there are lots of materials for constructing

(________________________________)

(a) Behaviourism
(b) Humanism
(c) Theory of Qualitative Stages
(d) Concept of Developmental Tasks.

4. In Form one the children are using sticks to learn about units, tens and hundreds. They bundle the sticks to help them gain insight.

(________________________________)

5. An urban secondary school has bought several self-operating slide viewers. Students use these on their own to study such topics as number sets and the steps in certain science experiments. The slides develop each concept step by step.

(________________________________)

6. A local teacher training college emphasises that teachers should act as "facilitators".

ANSWERS TO SELF-TEST

1. (a)
2. (d) - perhaps also (b)
3. (b)
4. (c)
5. (a)
6. (b)

Unit 5: THE ORGANIZATION OF AREAS OF KNOWLEDGE IN THE CURRICULUM

OBJECTIVES

After having studied this unit, you should understand:

1. The various ways of structuring learning areas
2. The various bases for selecting the particular structure
3. The implications of each kind of structure to education.

This topic will be more exhaustively treated in the residential phase.

ORGANISATION OF THE AREAS OF KNOWLEDGE IN THE CURRICULUM

The organisation of knowledge in any particular area is based on the emphasis of the education system. This is to a large extent influenced by the philosophy of the curriculum planners. The organisation may be based on the structure of disciplines, on the process, or it would be so organised as to suit a particular way of instruction. All these approaches may be integrated in order to facilitate the study of the environment.

In a system where adults dominate and are authoritarian the curriculum is often content based. If however, children in the cultural set up are encouraged to ask questions then the process approach is preferred or finds adoption unconsciously.

STRUCTURE BASED ON CONTENT

Where the content of the subject area is an important consideration in structuring the curriculum, three bases are possible. It may be on the needs of the discipline in terms of factual knowledge, on topics that are regarded as important or on conceptual schemes.

Discipline based

Every discipline has a traditional form in which it is presented. In physics for instance, there are chapters such as, light, sound, magnetism and electricity. Certain exercises often referred to as experiments are common in the texts. These are for the learner to understand certain facts and concepts. Care is often exercised to make sure that subjects remain pure. Biology will concern itself with biological facts, principles and experiments. Within the context of the subject, relevant cognitive knowledge will be taught both in the area of factual and skill knowledge.

Topic based

A curriculum may be based on topics. These topics usually cut across disciplines. They are a form of integration. The selection is usually based on their importance to life and a number of subject areas. Water is an example of such a topic. Its physics, chemistry, biological importance, and even its historical importance can be included into the unit of study.

Conceptual schemes

On the way of ordering the content in a curriculum is that based on conceptual schemes. Concepts considered basic in a subject area are identified and arranged in a hierachial order. For instance in one science program classification (sorting) is considered basic and is followed by interaction of objects. In other words one has to master the concept of ordering objects, classification, before grappling with the concept of interaction. Other concepts of a higher order are then considered, again in some form of sequence.

Self-test 1

Look at some school subjects in your country's secondary schools. Give an example of a subject that is:

Discipline based
Topic based
Conceptual based

For each example make an outline of the areas covered.

STRUCTURE BASED ON LEARNING PROCESSES

Every subject area has processes that are used by those who study it. Historians, geographers, scientists, linguists have certain styles and ways of dealing with their subjects. Scientists, for instance, use processes such as observation, classifying hypothesizing, isolating variables and recording in studying scientific phenomena. This approach of structuring the subject based on the processes is popular with those who prefer the enquiry approach, they claim as Bruner (J.S. Bruner, "After John Dewey, what"? Saturday Review, 44:76-77, June 17th, 1961), that a schoolboy learning history must be given a chance to behave like a historian. Naturally, there will be a difference, but in degree only. Emphasising processes leads to independent learning, a freedom to follow ones interests.

Self-test 2

Find an example of a subject area based on process. Give an outline of it here.

STRUCTURE AS ORGANISATION OF DISCIPLINES FOR INSTRUCTIONAL PURPOSES

Where teachers, especially experienced teachers dominate in curriculum development one is likely to produce curricula that may be too biased for class presentation. In extreme cases, areas that are difficult to teach effectively may be eliminated from the curriculum. If carried too far this approach may focus too much on the comfort of the teacher at the expenses of covering children's needs. Admittedly what is taught well will be done well.

Self-Test 3

Have you come across any problems arising from teachers dominating curriculum organisatons?

INTEGRATED APPROACH

Perhaps extremes are not necessary. The curriculum can emphasise process but make sure that the content is relevant. If areas of importance for relating individuals to their specific environment are identified, they could be encouraged to develop the processes using those aspects of the environment. By so doing, they could accummulate facts and form concepts about the environment. For instance in a malarial area, they could observe, record, make certain experiments, and investigate some social problems brought about by mosquitoes, etc.

Richard Pring, in an article on "Curriculum Integration" first published in the London Institute of Education Bulletin, (Spring 1970, pp 4-8), has argued that the very concept of integration demands critical examination since the value of the concept is not as self-evident as it seems. Pring advances arguments both for the subject-centred curriculum and for integration. He will certainly make you realise that curriculum integration is more complex than you may have thought.

Please allow sufficient time for thorough reading of this excerpt:

> ...Integration is also a 'pro-word'. It is contrasted with the fragmentation of the curriculum which typifies the traditional school, with subject barriers, the compartmentalization or pigeon-holing of knowledge, with specialization and irrelevance to life as a whole. Rather it is connected with the natural enquiry of children which does not respect subject divisions.
>
> To be both an "in" word and a "pro" word has its dangers. Education theory is rife with such words: 'growth', 'needs of the child', creativity' and so on.
>
> Unity, integration, wholeness seem to have a fascination and value of their own. But what do they mean? 'Integration' as such is an empty word. There must be integration of something and one cannot reaslly understand or appreciate what is meant by curriculum integration until one has clarified what it is that is being integrated. Yet to clarify this is by no means easy. It raises important questions in epistemology and ethics. What I would wish to ague is that any particular recommendation for curriculum integration implies some underlying theory of knowledge or of value or of learning, and that to explain what one means by integration necessarily involves one in such theoretical considerations. Because of the failure of so many educationalist to understand this, the words integration is bandied about as thought its meaning were clear, and recommendations for curriculum integration are made as though its vaslue were self-evident. Here, however, I can only indicate why its meaning is not clear, why its value is not self-evident, and why therefore there is a need for a much closer analytic and critical examination of 'integrated' programmes if education is not to be sacrificed to yet more conceptual muddle and practical confusion.
>
> Curriculum integration is frequently contrasted with the compartmentalization' of knowledge which, apparently, is characteristic of the 'tradational' syllabus. A subject-based curriculum is said to limit enquiry, set up barriers, and confine study to a limited range of information. Often these barriers are seen to be arbitrary or simply conventional, and the integration

of subjects is seen as a necessity if there is to be a 'truer', more comprehensive picture of reality. For so it is argued, the division of knowledge into distinct subject division is artificial and does not reflect correctly the essential unity of reality and of our ordinary way of understanding and judging. It is foreign to the natural and spontaneous (words that frequently crop up in this context) method of enquiry. What is important for the school to do is encourage 'enquiry' (and enquiry knows no limits) and for this purpose to provide a 'rich' and 'stimulatingp' environment.

At this stage, however, it is necessary for the 'integrationalist' to pause awhile for the'specialists' would argue that the distinctions between subjects are not arbitrary at all and that to blur or ignore these distinctions is to debase any claim to knowledge.

Understanding (and education would seem to be about the development of the understanding) lies in the formation of conceptual schemes that consist in the organisation, discrimination, and interpretation of experience so that it can be expressed and communicated symbolically. The development of meaning is the development of this symbolic organization characterized by certain general concepts and modes of inference and by certain accepted canons of verification and enquiry. Outside these unifying principles of experience there can be no meaning. No enquirey can take place except within a particular system of thought, and this involved recognising the implicit rules of procedur built into the acceptance of this system rather than another. In a way it does not make sense to talk of children by simply making an enquiry. It must be an enquiry of a certain sort. As soon as one'enquires', one is involved in the use of symbols which already dictate, as it were, what moves are correct or at least permissible. Any enquiry must involve the meanings revealed at different levels within one or other of the disciplines. This is a logical point - it follows from what one means by mind, rational behaviour, and hence enquiry. The subjects on the curriculum, so this argument goes, are there because among other things they initiate the pupil into the different modes of understanding that are characterized by distinct organizing concepts, principles of verification, and logical connexions. Far from being merely conventional or arbitrary, they represent in their distinct disciplines of thought what it is to think, to know and to enquire.

I am not wanting to defend this thesis against the advocates of curriculum integration. I wish merely to say that is with such a thesis they must deal if they are to suggest that subject divisions are merely conventional or arbitrary. They must argue either that such is a false theory of knowledge or that it is not a complete account of knowledge and that the recognition of autonomous disciplines needs to be supplemented by some form of integration within the curriculum.

Where the second line of argument is adopted, there can be distinguished quite different theoretical reasons for proposing curriculum integration, although in practice the reasons are rarely made clear. Firstly, integration might be argued for as follows. No proposition or argument of any enquiry is, admittedly, without a logical structure which can be identified as such and which determines to some extent the role it can play in the enquiry. One knows that a given proposition,is, say an empirical claim to truth within a certain conceptual structure and that the test of truth or falsity of this kind of proposition is such and such. One knows that a particular argument implies certain criteria of validity and one can compare this argument with the norms assumed by it. Nonetheless, many problems including those of considerable personal importance cannot be raised, let alone answered, within any one cognitive structure. Different sorts of enquiry have to be brought to bear upon a particular problem. Sex education, or giving adequate answers to practical questions raised about sexual behaviour, is an obvious example. No one discipline can claim a monopoly of the sorts of consideration relevant to the determination of practical principles. In many areas of understandig, especially where practical decisions have to be made, the integration of distinct disciplines of thought is essential yet cannot logically be given within any one discipline. The putting together of the distinctive enquiries represented by the disciplines is itself an educational task that should have a place within the curriculum. In other words, one might recognise the autonomy of different bodies of knowledge while at the same time recognising the problems inherent in their synthesis. And one might make provision in the curriculum for this synthesizing element by concentrating, for at least part of the time, on areas of thought and decision-making where such an integration is indispensable. One would, as it were, learn to integrate (just as one learns to teach by teaching).

A second line of reasoning for some degree of curriculum integration might be summarized as follows. The disciplines represent the worked out structures of knowledge, the systematic organization of experience, the particular conceptual schemes which determine how one classifies, individuates, and proceeds with yet further enquiry.

The disciplines therefore constitute in the most complete and developed form the logical structure of knowledge. They do not however reflect the pupil's level and mode of understanding, nor do they indicate the process whereby the pupil might attain these structures of knowledge. For, on this line of argument, the finished product, tidied up into the logical neatness distinct disciplines, does not contain within it the way in which it should be presented. On the other hand, if the student were allowed to pursue his own interests and to satisfy his own curiosity, he would raise questions which would gradually be refned into the precise systematization characteristic of the different disciplines of thought. The 'natural' curiosity of the pupil, his 'spontaneous' enquiry, would lead to the gradual differentiation of a conceptual structure that typified the worked out modes of understanding. Although the end product might be the different forms of knowledge, the educational process towards this goal would be an integrated activity, focused upon or united in the current interest or enquiry of the pupil.

Of course it may be argued that there are no distinct disciplines of thought, characterized by different modes of enquiry. Rather is all enquiry a matter of solving problems - one is in a sort of forked-road situation. First, one is puzzled how one migth proceed. Secondly , as much relevant data as possible is gathered. Thirdly, a principle of procedure is tentatively formulated in the light of this data. Finally, this is put to the test and applied in practice. Either one's problem is solved or the principle is rejected, or at least reformulated. In any case, there is always the same pattern to any enquiry and the resulting knowledge is essentially that of tentative hypothesis constantly tested and reformulated. The differentiation of knowledge into distinct modes characterized by different processes of enquiry and verification is dismissed. Enquiry is basically of the same pattern, the method is the same, and if encouraged and pursued will provide the integrating factor in all the classroom activities.

Sometimes of course the pupil does not appear to be 'spontaneously' or 'naturally' curious. In such cases the pupil needs to be 'stimulated'. Interdisciplinary enquiry sometimes begins with a key lesson which in the pupil is given a battery of 'stimuli' in order to 'spark him off'. Ideas are scattered freely, possible lines of enquiry suggested, problems presented, questions asked. Themes or topics might be provided and these, if suggestive enough, will make good 'starters'. Having started, the pupil is free to travel in whatever direction he likes provided that in travelling he is raising questions that open his enquiring mind to yet new experiences and fresh connexions of ideas. Themes or starters in this sense are not intended to control or set limits to the enquiry, only to trigger it off.

A further sort of reason underlying some proposals for curriculum integration arises more from ethical than from epistemological or learning theory. To the question 'What is the aim of education?' an answer might be given in terms of the needs of the child or those of society. Such an answer does not raise the epistemological issues that I have been considering. Whatever its nature, knowledge is said to be of value in so far as it meets the needs of the pupil or is of social utility. The 'needs' of the pupils are listed (different books give different lists) and these become the unifying factors in determining the balance of the curriculum. Themes like 'Man and his environment' are subdivided into smaller themes such as 'Family', 'Home' 'Leisure', 'Work'. To study material within the ambit of such themes will, it is claimed, enlighten the pupil in matters relevant to his immediate needs. Often such a programme of enquiry will be called social studies in which history, geography, literature, religious knowledge, and other subjects are integrated within the particular theme and are thereby directed to shed light on the needs of the pupil.

It has been the purpose of this brief article not so much to justify or to criticize the different proposals for curriculum integration, but rather to indicate some of the different theoretical considerations which at different times underlie them. Curriculum integration is frequently pursued without any analysis of the nature of knowledge and therefore without any clear cognitive objects. However, where there is such an analysis and where areas of autonomous studies are respected, integration may still remain an objective for curriculum planners for the quite different reasons that I have given and that I summarize here. Firstly, it is claimed, a mastery of the different disciplines is not all there is to knowledge; there is a further educative task of integrating the disciplines in so far as these are brought to bear upon a problem which cannot be fitted into the limits of any one discipline. Secondly, the curiosity and free enquiry of the pupil might be seen as the integrating factor and the final systematization of knowledge, manifest in the different disciplines, would be said to develop from such an enquiry. Thirdly it is held by some that the method of enquiry itself is unitary and that there is no theoretical justification for the proliferation of modes of understanding upon which the fragmentation of the syllabus is based. Fourthly, it is argued that the value of knowledge depends on the degree to which it satisfied the 'needs' of the individual or of society; 'needs give direction and purpose, and thereby an integrating thread to the educational process. Fifthly, certain concepts such as 'power' and 'communications' are complex in meaning, are central to our thinking in the different disciplines of thought, need close scrutiny in themselves, and thereby offer fresh ways of entering into different areas of knowledge.

I have sought briefly to identify quite different reasons which might underlie proposals for curriculum integration. Let me in conclusion show how this can occur. It is a frequent practice in interdisciplinary enquiry to suggest (or impose) a theme which, instead of the traditional subject, will be the focus of study. But in the light of the distinctions that I have made in this article the theme might function in quite different ways. Firstly, it might in some way delineate an area in which practical decisions have to be made and which must therefore, be a focal point of interdisciplinary thinking (e.g. sex, war, authority, etc.). Secondly, it might be the name for a complex of information which is thought relevant to the needs of the pupil or of society. Thirdly, it might through an association of ideas be a starting off point for enquiry. Fourthly, it might itself suggest a certain structured body of knowledge that needs to be mastered but which transcends the subject boundaries, and here one often hears talk of 'exploring a concept' (e.g. 'power'). Not to have clarified beforehand the function of the theme or concept may lead to a very confusing situation. It may be used simultaneously both to trigger off a line of enquiry and to set limits to the enquiry - and these are quite different functions, often in practice incompatible with each other.

Depending, too, on the particular conception of curriculum integration that one has, are such matters as the role of the teacher, the pattern of the school timetable, the use of resources, and so on. Current writing on the 'integrated day' suggests the need for a 'rich and stimulating environment'. Resources are rather like pep pills - stimulating, maintaining, and extending the pupil's interest. On the other hand where the centre of integration is an area which ought to be explored by the pupil or which is judged relevant to his human needs and concerns, the 'bank' of resources should be developed with these quite different reasons in mind. Items are chosen because of the lead they give along a pre-conceived line of enquiry rather than for the interest they arouse.

Curriculum integration is a much more complex notion than is often realized, not only in its conception but also in its effect upon teaching roles, use of time, organisation of the school and the classroom, and so on. There is no opportunity here to enter into this in detail. Suffice to give some indication of this complexity and of the need to look much more closely at the deeper issues that lie beneath it.

Have there been attempts at curriculum integration in your country? Have they failed, or have they been successful? For what reasons?

IMPLICATIONS TO EDUCATION

Before deciding on making a new curriculum, the developer must make sure what approach he wants to adopt. Apart from idiosyncratic preferences, an attempt must be made to select a structure that can be handled easily by the system. The process approach assumes well trained teachers, a teacher who is prepared to follow the children in their adventures perhaps to areas unfamiliar to the teacher. This is something scaring to ill-prepared teachers. As implied elsewhere, present day summative (examination) evaluation techniques cannot handle the process approach, and examinations may not show what has really been learnt.

WHAT HAVE I LEARNED IN THIS UNIT?

Answer the following questions and then check your answers with those given at the end of the unit.

Fill in the missing words

Areas of knowledge in a curriculum may be organised according to (1) c __________, the nature of the (2) d ______________ (3) + __________, major __________, or (5) p ______________ Sometimes teachers arrange the curriculum for(6) i___________ purposes or they use an (7) i __________approach to the subject.

Whateverd the case, a curriculum developer must make sure what approach he wants to (5)a ___________________ before he designs a new curriculum.

ANSWERS

1. content
2. discipline
3. topics
4. concepts
5. processes
6. instructional
7. integrated
8. adopt

Only a small sample of relevant literature has been included in this bibliography: in essence only basic reference materials for curriculum planners.

An excellent bibliography is contained in Hawes (1979), which lists general titles, titles specific to curriculum development in Africa as well as those specific to individual countries.

Please make sure to take a look at the bibliography in Hawes (1979), pp. 201-216

The second part of this bibliography lists a number of African studies in curriculum development and evaluation which have been undertaken by students in this programme, and copies of which will be available in your curriculum centre. Please refer to any of them of interest to you.

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REFERENCES AND FURTHER READING

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